For Market Purposes!

IS an expression frequently employed in conventions and other places, to designate and recommend a description of article which looks well and is readily produced. It might be proper for some one to protest, in the name of the public, against the use of the phrase, unless it is accompanied by an explanation.

While we write, the "Country Gentleman" came to hand, with the following paragraph from a nurseryman, recommending various strawberries, and among them his own, which he prefers to all others. We had set out determined not to cite examples, because they are so numerous and well known, but the following will serve to confirm what we mean to say. It stands literally thus:

"*Scott's Seedling.*—Rapid grower, perfect flowers, very handsome, long conical berries, of bright scarlet color, and bears abundantly, but is quite deficient in flavor; might undoubtedly be profitable for marketing."—*Country Gentleman*, 1858, page 302.

A fruit *may* be honestly recommended for cultivation because it will carry to market better, and be received by the consumer in a better state, by reason of its firmness, and such was the meaning of the expression when it was first introduced; but the application of the words too often now means a poor or inferior fruit with a good-looking exterior. "Good manners are a perpetual passport," used to be the maxim, but of late the greatest rogues wear the best exterior, and are most agreeable and inoffensive in their manners. The *best looking* gentlemen in Europe are the card-dealers at the gambling institutions of the German watering-places. They are selected for their distinguished appearance and their *suaviter in modo;* but this is a fraud upon the credulity of the public, and it becomes a question whether we should not investigate the propriety of holding out false colors by recommending a market product, purely for the single reason that it will command the eye by putting on an appearance of excellence which it does not possess, or in other words that it will *sell.* Is it to be expected that the purchaser will be pleased when we virtually assure him that this or that fruit, labelled by our teachers, "for market purposes," is a very good article, when in an adjoining basket is another, the label on which is in reality, "for connoisseurs," or shall we say "for those that know better."

Everybody has once tasted, in their youth mayhap, under favorable circumstances of good health and appetite, some fruit of luscious exterior and corresponding value, the remembrance of which is a bright spot "on memory's page." That morsel gives a certain coloring to all one's future. If the same tempting appearance presents itself in the market or at the shop, it is not much matter what the price is, a portion large or small finds its homeward way. Perhaps the busy merchant, while extensive transactions have engaged his morning hours, mentally recurs now and then to the fine dish that will inevitably be the chief attraction at his desert. He will then descant upon "what is good," and tell his listeners how it was when he was a youth. Dinner is despatched, the fruit is produced; no comment; when it does come, it is sadly pronounced, and sounds thus, "Ah! it don't

taste as it did when I was a boy!" "But," chimes in his wife, who is opposed to smoking perhaps, "you forget that you've deadened your taste with tobacco!" "I don't care if I have, it is not the same thing." And it is not. Who that has partaken of a Seckel pear under the tree, that was properly cultivated, thirty years ago, relishes the poor little knots, of less than half the size, that are now their lineal representatives. Some people have abandoned the cultivation of the acknowledged best pear in the world, to try experiments on new and doubtful kinds. We have been experimenting with all our energies to supply the dear public with the best strawberries, and now recommend one "*quite deficient in flavor!*" Peaches are rarely met with of the excellence of "old times," and many people have abandoned looking for them.

"We have better fruits than we had then," shouts some young enthusiast. So we may have in some departments, but it will be well to inquire where this constant selection of kinds "for market purposes," as now understood, will land us. People will purchase strawberries and raspberries to the end of time, but if they discover you have brought too many *for their looks alone* they will grow chary of their cash, and declare them an unnecessary expense, having no longer the taste the fruit had when they were young.

We always look cautiously at fruit recommended only "for market purposes," and so sure as it is inferior to the best, so surely will its price ultimately indicate the fact. A big cherry with two bites on it, and no flavor, will not do "for market purposes" very long. *Let us aim at the very best*, and trust to a generous public with a pocket always full of money and pretty well posted on the subject of flavor.

Too long has this "for market purposes" been the burthen of market men. A farmer's wife colors her butter with annatto, or the juice of the carrot, and exultingly says, "That's the thing for market purposes," while perhaps it is so inferior in good qualities that she would not set it before her friends. It *looks* well, takes the fancy of the boarding houses, just as brewed wine brings ten dollars the gallon, provided it has the right sort of look, and smacks of ether, though it is colored with poke-berry juice and filtered through coarse paper. Very few people know that the foreign cordials sold in nice strawed bottles are made of gum arabic and flavored with an essential oil. Leave out the cork and the oil evaporates, nothing remains but a solution of the gum.

Thus, "for market purposes," all trades unite to palm off inferior goods, and few enough are the wholly genuine. A large and well-colored berry has the preference over the one with the true flavor. A sweated fruit of golden hue commands three prices beyond the same awaiting Nature's preferable processes. Let us, as horticulturists, cease to imitate the rogues; let us, who live with and consult with nature, give her due credit for good intentions, and not torture her into a love of gay fruits with hollow pretensions and pithy hearts. If such plans are recommended from the pulpits of horticulture, what will be the result? We shall learn to tolerate and commend other false pretensions; we shall love young ladies who consider it sufficient to have full skirts and empty heads; a silk dress will be thought better than a knowledge of bread and butter making; newspapers printed so as to look like the genuine thing, will be crammed with foolish agricultural and horticultural matter,* made up of a collection of reckless invectives,

* Witness already the *Rural New Yorker*, which actually taught lately that grapes would hybridize with the hickory nut! about as possible as for the pumpkin and strawberry to unite and make strawberries and cream. It has a contributor, whose writings we rejected, thus characterized by one of our best informed correspondents:

hardy assertions and insolent bigotry, strong in the confidence of self-satisfied ignorance. Everything will become a sham; thermometers will be highly varnished and tell false tales; spy-glasses will have a shining exterior, with window-glass substituted for the polished lens; all our fruits will be "quite deficient in flavor," and people will cease to buy them.

The purchaser is as much to blame as the vender, for he encourages the deception, which has perhaps been taught him in "the books;" but honesty continues to be the best policy, and in future let us hear of such fruits as are better than those usually employed "for market purposes." We venture to suggest that the pomologists lead in the reform, or their vocation may be gone.

They have a term abroad, in manufacturing districts, which is of the same tendency. They say, "for the American market;" and if you will compare the texture of goods manufactured for us with those made for consumption at home, you will find the one flimsy to the utmost capacity of the loom, the other as substantial as possible for the price; the one "finished" for show, the other for wear. Every region of the globe is ransacked for *imitations*. The reason is, we have got into the habit of asking for these things to be cheap; the too numerous "store-keepers" cannot get a large profit on a good article; every buyer at retail wants the chief element to be cheapness; the consequence is that in consuming dry goods, the purchaser buys a barrel or two of American sour flour, that has twice paid freight across the ocean, and is employed in the form of starch, to keep the flimsy substances in shape till it is rubbed off on the wash-board, and the wonder is that "goods now-a-days *don't wear*." The love of change and "new styles" reconciles the ladies, if it does not exhaust their husbands' or parents' pockets. But is it to be expected that people will always buy berries wholly without flavor, if they find it out, as they surely will. There is varnish and deception enough already in the world. Reform it altogether.

GREEK IDEALS OF GARDENING.

BY PROFESSOR E. NORTH, CLINTON, N. Y.

To the earnest, practical scholar, who likes to keep his thoughts busy with something beyond the dry husks and integuments of ancient learning, everything pertaining to the country and landscape scenery of the Greeks is endowed with a singular fascination. So deeply is he enchanted with the spirit of Homer and Plato and Theocritus, so intimately is their life absorbed into his life, that he owns an attachment for the soil they trod, for the skies that bent above them, for the streams beside which they walked, weaving their thoughts and feelings into verse; for the trees, beneath which they playfully chatted, or soberly discussed knotty problems in philosophy. This interest is not unnatural or puerile: it brings both a pleasure and a profit. The mountains and rivers, the rocks, glens, and trees of Greece all had a voice in deciding and shaping the character of its inhabitants. Especially was this true of her poets, whose companionship with nature was more inti-

"Can you tell me what he is; he intimates that he is deeply versed in Natural Philosophy and scientific research. Really I never heard of him. He intimates that the Pomological Society should give him the same encouragement and patronage that the New York State Agricultural Society gave Dr. Fitch. It is self-conceit all over, without any knowledge." Very true, but it is not the first time the individual has mistaken his vocation, nor will it, we suppose, be the last, such is the unfortunate constitution of his mind. Jerrold said to a young man who burned to see himself in print, "Be advised by me; don't take down the shutters before there is something in the window."

mate, unreserved, and free from disturbance, than that of her orators and historians. If one would arrive at the truest conception of the Greek character, in its æsthetic phase, teaching his inner eye to detect all its delicate shadings of thoughtfulness and half-hid revealings of poetry, he must take into account the influence of these natural agents.

Amid the perpetual flux and noisy changes of human life, nature remains the same. It is pleasant to know that, as it regards physical features, Greece continues at this day what she was twenty centuries ago. Her sky is pierced by the same Olympus whereon the early fables fixed the home of the gods. Her poets and orators are gone ; her temples and theatres are in ruins, but her rivers and her trees remain, like her literature, unchanged.

"Art, glory, freedom fail, yet nature still is fair."

If we take the trees of the Greeks, more especially those selected for gardens and public grounds, as giving an expression of Greek character, it will be seen that they were made to satisfy higher needs than those of the mere mechanic, the fruit-grower, or even the ornamental planter. To the eye of a Greek, whether cultivated and tasteful, or ignorant and superstitious, a tree was something better than a bundle of vegetable organs, that answered its only mission when it had contributed to his physical support, enrichment, or pleasure. It had a moral significance. It spoke a language as many-voiced and potent as that which flows from human lips. Such of the Greek trees as were distinguished for their beauty or utility were held sacred to divinities. They had also emblematic uses, as numerous as they were ingenious and eloquent. This was not all. The Greek trees discharged other offices, which, though less specific, and not recognized in set phrases, were none the less real, touching closely the national life. They had tongues, and preached daily lessons to all who sought the cool baptism of their shade. The squandered fragrance of their blossoms breathed lessons of kindness. Their gesturing branches and murmuring leaves gave instructions in grace and music. Their autobiography, as rehearsed by their very presence, was a volume of wisest proverbs. They taught that the most stupendous results are inclosed in the seed of each living principle, as Dodona's forest sleeps in the acorn's cup. Starting from minute germs, making themselves tall and strong and fair, by their own industrious vitality, by slowly adding fibre to fibre, by pushing out branch above branch, and leaf beyond leaf, by getting something of gain from each shower and dew-fall, from sunshine and breeze, by wrestling with storms manfully, by striking deep their roots and sending them out on remote excursions after food, they taught the exceeding worth of strong will and plodding patience, and hopeful energy and faith. Over all the large, earnest souls of Attica, the Attic trees stretched out fraternal arms, breathing blessings.

Of all the superstitious notions entertained by the Greeks, the most poetic was that which associated with every tree a wood-nymph or hamadryad, whose life commenced and was doomed to perish with the life of the tree. Reference is made to the fabled hamadryads in a paragraph of Homer's Hymn to Venus : "Along with these nymphs at their birth are born either beech-trees or high-headed oaks on the generous earth, graceful of form, vigorous. They reach towards the sun on lofty mountains, and are called the groves of the immortals, which mortals never assail with the axe. But when the doom of death is at hand, the graceful trees are first withered and

the bark dries up about them, and the boughs fall off, and then their life quits the sun-light."

Several ingenious allegories have been founded on this botanic myth. Not to dwell at this time on such fancies, (*poëticis decora fabulis,*) and without undertaking a description of individual trees, (a topic that would claim an entire article, and might be made to fill up a volume,) I propose to speak of the treatment that trees received from the Greeks in their gardens, public grounds, and ornamental landscapes.

Among the Greeks, the art of ornamental planting, or of expressing the beautiful in Gardening, divides itself historically into two periods. They are the Homeric and the Platonic periods.

As individual character often takes a tone from intimacy, or want of intimacy with trees, so national features may be detected in the treatment and culture of trees, as ornaments of the garden and the landscape.

Homer's ideal of a garden is given in his glowing picture of the grounds about the mansion of Alcinous. For brevity's sake we translate loosely.

"Near the palace was a large garden, hard by the gates, covering four acres. A hedge was stretched about it on every side; within, tall, sturdy trees had grown up, pears and pomegranates, apples, bright-fruited, and luxuriant olives. Of these the fruitage decays not, fails not, either in summer or winter, lasting the year round. Pear grows mellow after pear, apple after apple, grape-cluster after grape-cluster, fig after fig. There also a rich-fruited vineyard had been planted, with a level drying-ground, warmed by the sun. There, while some grapes they are treading, others they are gathering. In front are green grapes, having just cast the blossom, while others are purpling into ripeness. Here, too, are neatly-kept flower-beds, beside the last row of trees, blossoming throughout the year. Finally, there are two fountains—one is carried over the grounds for irrigation—the other flows into the palace, whence the occupants supply themselves with water. Such are the glorious gifts of the gods to the home of Alcinous."

The picture thus sensuously painted, is one that offers every thing to the palate; yet little to the soul. It is poorly fitted, with all its miraculous details, for stirring the heart's deep springs of poetry and feeling, and for

> "Annihilating all that's made
> To a green thought in a green shade."

The Beautiful is overshadowed and dwarfed by the Useful. Homer's trees in the garden of Alcinous are wonderful and desirable; not because they furnish a pleasant home for birds of song and humming cicadæ, not for the grace and animation they give to scenery; not for the cool, creeping shadows wherewith they dial off the long summer hours on the clovery turf; but solely for their endless supply of luscious fruits. This were a paradise too coarsely sensual, save for the age of Homer, or the dupes of Mahomet. Albeit a wealthy and great-hearted monarch, Alcinous' ideas of gardenesque beauty are cramped and gross. His wine-press is as much out of keeping where the poet puts it, like a rude impertinence, between the palace and the flower-beds, as would be a cider-mill in the French Emperor's *Jardin des Plantes.* He is resolved, apparently, that his water-works shall pay well for the room they take up. The two fountains suggest only ideas of use and convenience. They are little better than a pair of drinking-troughs. One of them, had the Greek been rendered literally, would have seemed to do the duty of a town-pump.

It is nought to Alcinous that water likes to leap heavenward, and dance

in the sun-light as David danced before the Lord. It is nought to him that water is born with the inalienable right to life and liberty. It is nought to him that water has a natural turn for music, and will sing in chorus with birds and morning stars, if one but allow it a pebbly rill to run in.

Another gravest fault with Homer's model is, that it cannot be put into realization by human agency. It contradicts the fixed order of nature, by mixing seed-time and harvest, and expelling winter from the calendar altogether. Homer's instinct was more trustworthy than his cool judgment. His quiet and winning sketch of the scenery about Calypso's grotto, when he was making no effort to astonish, is in perfect fidelity to the principles of landscape gardening, as developed by modern artists. Hear him, with Alexander Pope to interpret :—

> "Without the grot, a various sylvan scene
> Appeared around, and groves of living green.
> Poplars and alders ever quivering played,
> And nodding cypress formed a fragrant shade,
> On whose high branches, waving with the storm,
> The birds of broadest wing their mansion form.
> Depending vines the shelving cavern screen,
> With purple clusters blushing through the green
> Four limpid fountains from the clefts distil,
> And every fountain pours a several rill,
> In mazy windings wandering down the hill:
> Where blooming meads with vivid greens were crowned,
> And glowing violets threw odors round;
> A scene, where if a god should cast his sight,
> A god might gaze and wander with delight!"

Plato's ideal of gardenesque beauty is hinted at in the opening of his Phædrus, where the scene of the dialogue is described somehow thus :

"By Juno, a beautiful retreat! Here the platan spreads very widely its cooling boughs, and is superbly tall. The twilight beneath the low willows—how refreshing it is!—and the whole air is filled with their pleasant fragrance—a cheerful fountain of coolest water flows beneath the platan, which appears to be sacred to certain nymphs, from the statues of virgins that adorn it. Then, again, notice what a summer-like and agreeable singing resounds from the choir of katydids. But the sweetest sight of all is that of the grass so persuasively adapting itself to receive on its sloping velvet the reclining head."

Plato's ideal represents an advanced stage of culture and refinement. It represents a period when sense was subordinated to spirit, and the glories of nature were wedded to the creations of art, or brought into kindliest rivalry with them; and this, without sacrificing to the association aught of nature's simplicity. The Platonic garden was a place where temples were built to the Naiads and Oreads, with which Homer's fancy had peopled every stream and wooded hill; where tempting walks coaxed the feet through wierd perplexities of shade and fragrance; where glades opened through to waterfalls, spanned by rainbows, as if to afford a playground for sublime thoughts; where drooping willows caressed the white brows of marble goddesses :

> "Where meeting boughs and implicated leaves
> Wove twilight o'er the poet's path."

The Platonic garden was a place for social enjoyment. Friends there came together, without ceremony, in the long summer evenings, and timed the music of their talk by the cicada's ticking in the grass. It was a favorite place for intellectual encounters and jousts of wit. Instead of a smooth

spot warmed by the sun, where slaves were treading grapes in the wine-press, and water-tanks where drudging housemaids were filling their pitchers; it had green broad lawns, shaded by platans and olives, with temples sacred to dance and song, and inviting seats sacred to conversation; where keen thinkers were solving the problems of a philosophy, well-named divine: a philosophy

> "Not harsh and crabbed, as dull fools believe,
> But musical as is Apollo's lute."

There are few things in which the triumphs of genius and art are more signal and limitless than in Landscape Gardening. The artist gardener is dependent upon Nature for every feature of rural beauty that he develops. Yet he almost seems to originate where he only improves or reproduces. He can select what is comely, and discard what is worthless; he can chasten what is rude, and enliven what is tame; he can harmonize as well by sympathy as by contrast. He can pleasure the eye and the ear with unexpected sights and sounds; herein lie the secrets of his power. The visitor who walks through the grounds at Chatsworth, sees not a single element of rural beauty that may not be seen somewhere else; yet here these elements are so crowded together and so skilfully grouped, nature's deformities are transformed into such loveliness that one can scarcely believe he is treading the same old worn-out and ugly earth which was blasted with the primal curse.

Proportionately as men advance in civilization, their love for the beautiful in gardening grows deeper and stronger. With each onward step in self-culture, there is a marked improvement in their skill and taste for managing the details of a parterre or an ornamental landscape. The passion for natural beauty sometimes attributed to the Indian and the wild trapper will not bear a close inspection. They will stop to admire whatever stuns and amazes, like a cataract; but are generally cold to that which insinuates its lesson of loveliness in the whispering of leaves and the tinting of flowers. They are like Alcinous, seeing most beauty in what contributes most to the joys of the table. Their chief love is given to objects that gratify the animal appetite, heedless of what would minister through the outward senses to the hunger of the heart. Who ever heard, unless it were in some fiction's baseless fabric, of an Indian planting a rose-bush by the door of his hut; or a trapper stretching an æolian harp in a crevice of his cabin?

It sometimes happens that a teacher is outstripped by his pupils. Homer gave a lesson to the Greeks in ornamental planting. Selecting whatever was most admired in the garden of Alcinous and the Retreat of Calypso, they added other features suggested by their own genius and riper taste. Yet they failed to fully perfect the art of heightening the expression of rural beauty. To do this was a triumph reserved for our own Milton, who has improved upon Homer and the Attics.

In picturing his Paradise, Milton is careful to keep within the possibilities of Nature. There, nothing that reads like an extract from Baron Munchausen or the Arabian Nights. At the same time he is more liberal and artistic than Plato. His imagination moves with a more graceful freedom, a more various fertility. Aware that breadth and variety of view are essential to a landscape's permanent charm, he has warily avoided the use of definite and belittling terms. In place of prisoning the reader's fancy to a four-acre lot, misnamed a "great" garden, and half a dozen sorts of fruit-

trees, he permits it to wander, at its own sweet will, in a limitless mazy error

"Beside crisped brooks
Rolling on orient pearl and sands of gold,"

Amid

"Flowers worthy of Paradise, which not nice art
In beds and curious knots, but Nature boon
Poured forth profuse on hill and dale and plain,"

Amid

"Groves whose trees wept odorous gums and balm,
Others, whose fruit burnished with golden rind,
Hung amiable,"

While

"Level downs and flocks
Grazing the tender herb, are interspersed"
"With grots and caves
Of cool recess, o'er which the mantling vine
Lays forth her purple grape, and gently creeps
Luxuriant."

In his finished idea of a landscape garden, Milton was far in advance not alone of the Attics, but of his own age. After the lapse of two centuries, both prolific in contributions to the refined comforts and pleasures of life, the graceful flight of his inventive fancy is hardly yet caught up with, by the slow steps of practical art. If the picture of rural scenery he has so charmingly sketched, could be embodied in all its happy adjustments of wood and water, of lawn and rocks and sky, with its cheerful groupings of animal and vegetable forms, and above all, the entire absence of any thing like straining after effect, so that

"Nowhere appeared the art which all this beauty wrought,"

what rapture would it not bring to the eyes of our Loudons and our Downings?

RUSTIC FURNITURE.—FIRST ARTICLE.

THERE are many persons who would be glad to use tools for useful purposes if they only knew how. Rustic furniture is one mode of amusing themselves usefully. Though in the open air this kind of seats are liable to early destruction from the influences of air and moisture, it is an object to possess some specimens in a garden or lawn. Attention to housing them in winter, will greatly add to their longer utility.

Fig. 1.

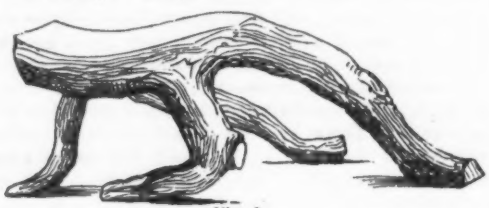


Fig. 2.

In cottages this description of furniture is very appropriate. In summer bowers, piazzas, and near or in garden walks, it is pleasant to see, if not to

rest on, such objects, which have an "expression of purpose" about them satisfactory to the mind. Under a fruit tree, an easy seat is proper and comfortable. Every agricultural laborer is more or less accustomed to the use of tools, and it is surprising how a little use in the adaptation of the materials at hand increases one's facility in such work. An old apple or pear orchard furnishes capital materials; all that is required for their construction is a saw, an axe, a gouge, and a few nails. The requisite skill is possessed by every man of ordinary intelligence; the taste grows by its exercise.

Fig. 3.

The adaptation of the natural growth of a branch to the required purpose must have the first consideration and will come by a little practice. In Fig. 1, the triple fork of a branch of a tree simply reversed and flattened, forms the legs of a stool, on which a rounded piece of plank is nailed to complete it.

In Fig. 2, a branch is spliced to the main stem or front, to form legs, and the seat made as in the former instance by pieces of plank, or even more simply, by smoothing the top of the main branch, when this is tolerably thick in itself. Advantage may be taken of some of the knots and excrescences to give a grotesque resemblance to an animal, by carving a head with eyes and mouth. Such forms may be infinitely varied.

Fig. 4.

In Fig. 3, a thicker plank of elm, perhaps, should be chosen, and the edges slightly bevelled beneath. The holes should be bored with an auger, and the feet wedged in from the top. In this, as in the other figures, the difficulty consists in the choice and arrangement of such pieces as will interweave together, and form stiffening braces to the work.

Fig. 5.

The tops of tables, Fig. 4, may be made of fir plank, and have a stout split batten underneath them. If the branching will not naturally trace the legs, pieces may be *grafted*

on, and in such cases the application of the gouge to the edges will quite take away the unpleasant effect of the junction.

In more complicated seats, such as the chair, Fig. 5, the difficulty consists in having their arms and backs made sufficiently symmetrical. A branch being chosen having the requisite bend, it must be sawn down perpendicularly to the shape which is required. Opened out, it forms two symmetrical sides properly handed, with a rounded side for the front, and flat behind.

We shall give in our next number some further illustrations of arm chairs, flower baskets, &c.

OVER-RICH OLD GARDENS.

No doubt every observant gardener has seen spots of ground that by over-manuring for a succession of years had ceased to be productive. The only remedy to make them again useful, is to clear a good portion of the richest earth away. Generally speaking, there are but few places where an exchange may not be made for fresh earth, as this garden soil forms one of the most valuable dressings for pasture or meadow land which can be met with. It is not always possible to get turf, or even soil from pasture land; but failing this, that from arable land, if moderately fresh and loamy, will form no bad substitute. Next come old banks, the parings from road-sides, any scraps of fresh soil obtainable where alterations are making. When the rich topsoil has been removed, spread a good dressing of quick-lime over the lowered surface and fork this in; if the lime is an inch in thickness it will do good. Afterwards road scrapings or old mortar may be added, when the soil is heavy; and marl, or a dressing of the scourings of ditches, when light. When this is well mixed with the lower spit, bring in the fresh earth and well incorporate the whole together. Rather than do this imperfectly, I would recommend that a portion only be done at once, selecting those parts on which Peas, Cauliflowers, Cabbages, Onions, and Carrots are to be grown, and leaving the plots appropriated to Asparagus, Seakale, and Rhubarb for after consideration, as it is found the latter are not so particular to soil as the former. Above all, the fruit tree borders, if they cannot be entirely renovated, should have fully one-half of the old soil removed and replaced by fresh, draining the borders when necessary, and having a good rubble bottom one foot deep, over which two feet of the compost should be placed for trees. I may here add that many kinds of fruit trees may safely be lifted, if carefully done, and the roots laid in any spare piece of ground while the borders are being renewed, more particularly Pears, Plums, and Apricots; and that these kinds will grow on richer soils than the Peach and Cherry.

Where it is found impracticable to remove any portion of the over-rich soil of a garden, then the next best thing to do will be to employ only those materials which are found by practice to counteract soils containing a super-abundance of organic manures. Lime is one of the best and the most readily procurable; I can strongly recommend newly slacked lime, mixed with a small quantity of salt, as a valuable compost for old garden soils. The proportion to use should be after the rate of sixty bushels of lime, and two cwt. of salt per acre. Superphosphate of lime, mixed with a small quantity of nitrate of soda, comes next, but is more expensive. Both these applications should be forked in immediately they are spread over the ground. Where new

compost has been procurable, the subsequent use of manure should be guarded against. Let a dressing of hot lime be given every third year, adding phosphate and guano occasionally, in place of stable dung; and lose no opportunities of applying road scrapings and marl, or calcareous soil, where much manuring is necessary, as it will improve the staple of the soil and tend to promote fruitfulness in the crops.

Liquid manure is also a better material than stable manure for these gardens, as it is more easily taken up by plants; and with chalk or lime occasionally added, will tend to form a better and more productive soil, and one capable of keeping in good heart for years, without the danger of getting over-rich.—*Florist, Fruitist, and Garden Miscellany.*

NOTES ON NEW PLANTS FLOWERED IN AMERICA.

BY DANIEL BARKER, SPRINGFIELD, MASS.

I PROPOSE, from time to time, to occupy a small space in the columns of the *Horticulturist* for the enumeration and description of new and choice flowers that have bloomed in this country, simply from a pure desire to benefit those of your numerous readers, who may, like myself, be ardent admirers of those gems of the creation. I am fully aware of the difficulty of describing well new flowers and plants, but having no interest to serve beyond the admiration I feel as an enthusiastic lover of them, I pledge myself to execute it with truthfulness and accuracy as far as I can possibly accomplish it.

Cineraria, Prince of Wales, (Turner).—A new variety from Europe. Flowers large, of excellent form; color pure white, edged with bright blue, and purple disc; habit very good. The plant from which the above description is taken, I presume, is the first of its kind flowered in this country.

Fuchsia, Gloire de Neisse, (Rothers).—A great novelty from Germany. This will prove one of the most attractive additions to any collection. A free and robust grower, and apparently a very free bloomer; sepels white, tipped with green, and beautifully reflexed; tube a delicate blush; corolla a blush pink or rose, striped with white.

Azalea, Iveriana.—A most beautiful variety; color pure white, beautifully striped with red. The form and size of flower, with the habit of the plant, is excellent, and highly deserves extended cultivation wherever azaleas are grown.

Azalea, Trotheriana.—A fine and beautiful variety of upright growth. Color of flower a bright violet rose; an abundant bloomer.

Azalea, Beauty de la Europe.—This is not a new but a charming variety. Color of flower, pink, beautifully striped with carmine. No collection, however small, should be without this beautiful variety.

Azalea, Adolphi fl. Pleno.—Double purple; a fine, free, early bloomer.

Azalea, Albertus.—Large red flower; an abundant bloomer; habit of plant, close and compact; an excellent kind for grafting upon the stronger growing varieties, the stems of which should be from twelve to eighteen inches in height.

Azalea, Admiration.—One of the most beautiful varieties in cultivation. Color pure white, flaked with bright carmine; an early and abundant bloomer.

Azalea, Ardens.—A splendid bright orange scarlet, of a most beautiful texture; habit of plant free and upright.

Azalea, Criterion.—Salmon pink, with a distinct margin of pure white, and beautifully spotted, with crimson in the upper segment; extra fine.

Azalea, Glory of Sunning Hill.—This is not a new but is a beautiful variety, and wherever two azaleas can be grown, this should be one. Color of flower a fine rosy pink and very double, well filled up to the centre when well grown; habit of plant very good.

CULTURE OF POINSETTIA PULCHERRIMA.

BY JOHN HOWATT, PITTSBURG, PENNSYLVANIA.

THE following has been my mode of growing the Poinsettia Pulcherrima for the last two years, and, according to my opinion, with the best possible success. I have read in many publications of the day various statements of its management, and have not yet seen good specimens of it. The Poinsettia is a fine old plant, introduced from Mexico about 1834. Its true flowers are a mere nothing, but the floral leaves that surround its flowers at the point of the young shoots, are of the brightest tints, and on this account the plant is much admired. Another fact enhances its value—it comes into beauty for the greenhouse when other plants are out of bloom. The Poinsettia has its faults and failings; it is decidedly of a bad habit, and this probably prevents many bestowing that particular attention the culture of the plant requires.

The two extremes of heat and cold I have seen resorted to. Some say bottom heat is necessary, while others declare the contrary. One writer will say place it in the stove, others that stove temperature frustrates the end in view; others, again, that a greenhouse is the only situation where we can obtain a stiff, sturdy, short-pointed growth. Amidst all those opinions, perhaps a middle course would suit the purpose.

After the plants are done flowering, cut them down, and the shoots are available for cuttings. These I cut into short lengths, each piece having two eyes. Cut horizontally under the lowest eye or bud. After the cuttings are made, place them on a shelf or any other dry place, for two or three days, to dry. They may then be placed in a pan, or pot, well drained, say two-third broken crocks, over this a little sphagnum, if at hand, then filled to the top with equal parts of silver sand and peat, passed through a fine sieve—the whole pressed into the cutting-pot, so as to give it solidity, and exclude the air from the base of the cuttings. The cuttings to be inserted about one half their depth, plunged in a brisk bottom heat and shaded from the sun. They will root in from four to five weeks, when pot them off into three-inch pots; one in each pot. Keep warm and moist until they have taken in the fresh soil; they should then be gradually exposed to a situation where they will have the benefit of more air, with all the sunshine you can give them, and still they require to be kept tolerably warm; syringed in the afternoon when the weather permits. As soon as they have comfortably filled their pots with roots, prepare for their final shift. I would recommend loam two parts (fibre if possible), peat one part, rotten dung half part, and as much sand as will make the compost appear greyish; a portion of brick rubbish, to keep the whole open and porous—eight-inch pots

for their final shift. Get as many of these together as your demand requires, drain them carefully, taking the precaution to have a good outlet for the water; on this much depend the health of your plants.

Bring the plants to your potting bench, and place five of your plants in one of your pots, previously prepared; one plant in the centre of your pot and four round the edges, being so situated that the fresh compost will cover an inch of the ball, each one inch deep. Be careful to fill up all the crevices around with fresh soil. In this way proceed until you have the desired number of pots filled; place them in the warmest part of the greenhouse. If placed in the stove for a few days it will be advantageous to them, as it causes them to shoot once more into active growth. For those who do not command a stove, a greenhouse will answer, by placing them first in the warmest part of it, and gradually introducing them to more air and light. Be careful and avoid much water after repotting. Water with a fine rose for a few days, until the plants begin to make root, when water may be increased as they get established.

Place a neat stick to each shoot, the centre one upright and the others leaning a little outwards; to these fasten the shoots as they advance in growth, but on no account stop them. In the fall they are kept much drier and more airy than in summer, which causes the wood to ripen well, and, as a consequence, they will flower most beautifully in the winter months. Cut down the following spring to one eye. There are several invisible buds round the base of each shoot; they will probably push in many places. When this is accomplished, turn them out of the pots, gently removing a portion of the old bulb or soil. Be careful not to break up the old bulb. Place them in ten-inch pots, using some compost, as previously recommended. Treat them as in previous seasons, and I will venture to say the cultivator of them will be richly rewarded with good specimen plants—if not as single specimens, at least with a clump of the Poinsettia which will attract the eye.

THE GRASSHOPPERS IN MINNESOTA IN 1856–7.

This destructive insect appeared in vast devastating numbers in '57, east of the Mississippi, and there is but little doubt that the cultivator in the states south and east, at least in parts of those states, must suffer from their ravages. Facts derived from the experience of one who has suffered not a little from their devastations may be of some value.

The writer is little acquainted with the correct scientific name of the grasshopper, or a technical description of it. Some good authorities mention it as a species of locust. If it is really that dreaded insect, and no means can be found to destroy it, inconceivable loss must fall on those sections where it alighted last fall. About the middle of August, 1856, the papers at St. Paul noticed the mischief the grasshoppers were doing around Sauk Rapids, some fifty miles from the falls, up the Mississippi. A short time after that a swarm of them reached the Minnesota. They were described as flying high in the air, and alighting on the ground. Though vegetation was well advanced to maturity, they did considerable mischief to potatoes, buckwheat, corn, &c. During September they laid their eggs in the ground, and it was not until the weather had set in very cold that they were destroyed. It is said they have been very mischievous in the Red River country before they appeared here; but where they originally

started, is, for the most part, a matter of conjecture. Their course, so far, has been nearly a southerly one.

During the warm weather of May, 1857, the grasshoppers began to hatch out in immense numbers, the soil seeming to be fairly alive with them; particularly was this the case in plowed land. No kind of weather affected them; whether the thermometer ranged 60° to 80° in the shade, or there fell cold, heavy rain for several days, or there came heavy frost, it was all the same, the young ones hatched out and commenced their destructive career. It would have been supposed that the extraordinary cold of the preceding winter—at one time an extreme of 43° below zero—the unusual cold and frosty weather of May, the very heavy and cold rains about the first of June, would have destroyed them. During June they committed much injury on the grain crops, but of the gardens and vegetables they soon made clean work. The grasshoppers seemed to have a particular liking to vegetables; where they commenced pretty strong on a garden one day, by the next not a green thing would be left. Not a vegetable escaped, excepting only peas, beans and some of the coarser vines, and these only where they were thickly sown. In sections further north, where they appeared in larger numbers than here, they cleared off the crops as they came up; but here, until the beginning of July, there was a fair prospect of securing some crops; but then they appeared in such increased numbers, that actually in two or three days they ate off whole acres of wheat in head. They seemed to work in swarms while they were committing so much mischief here. The farms a mile or two east were not injured. In July the grasshoppers got wings, and about the middle of the month they commenced flying southward in vast swarms. During the warm part of the day, looking toward the sun, as far up as one could see, the air was filled with them. By the middle of August they had all disappeared. The only safety for vegetation of any kind seemed to be in *early* and *thick* sowing, and of vegetables this may only save the Pea and Bean. It is hard to say where the grasshopper laid its eggs last year, but whoever has been unfortunate enough to be in such sections, the writer can only advise them to get in their crops as early as they can, and to sow and plant heavy.

MINNESOTA.

BATCHELOR, OR KING APPLE.*

BATCHELOR, or King Apple; fruit of the largest size: roundish, broader at the base, a little flattened; skin, lemon yellow, washed with lively red on the sunny side, sometimes obscurely striped with the same and sparsely sprinkled with greyish specks; calyx, small, open in a rather deep basin; stalk, usually very short, thick, and inserted in a moderate regular cavity, which is often russeted; flesh, white, tender, fine grained, juicy, and of a most agreeable sub-acid flavor. Ripens in October and November.

This magnificent fruit originated in North Carolina. The description above was taken from fruit furnished at the same time with the drawing, by J. Van Buren, Esq., Clarksville, Ga. I have known no better apple in its season.

WM. N. WHITE, *Athens, Ga.*

* See Frontispiece.

FRUITS OF THE SEASON.

BY RUSTICUS.

Rambling notes are found to be the most useful and informing; hundreds of people who visit gardens walk with their eyes directed to the gravel, and ten chances to a quarter of one, they will be engaged in telling you the history of a cherry or pear tree in their grandfather's garden, when you are trying to show them the novelties of the day. You must just "give it up;" remember that the masses never read the *Horticulturist*, and be content to pass your favorite plants and fruit in silence. Such a visitor will go home quite satisfied that he has shown a great deal of knowledge, though he has really escaped learning anything whatever. It is a rare *talent*, and one which when found, to be greatly esteemed, to be able to go through *another's* garden with open eyes. The chances are that your conductor has something to tell: do not interfere with his information if you go *to learn*; let *him* talk instead of telling him you robbed an orchard when at college, or giving your reminiscences of how strawberries, &c., tasted to your youthful appetite, and you may go home wiser than you came.

FIG. 1. STAMINATE.

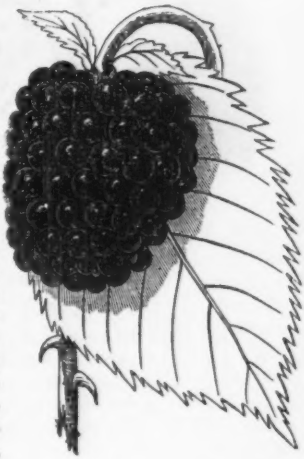
FIG 2. PISTILLATE.

FIG. 3.—STAMINATE FLOWER MAGNIFIED.

FIG. 4.—PISTILLATE FLOWER MAGNIFIED.

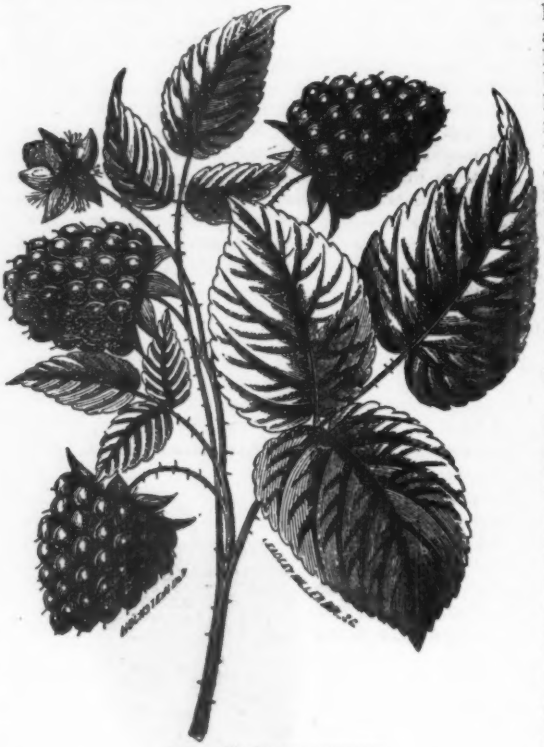
I am under the impression, Mr. Editor, that some people yet exist who would be glad to know the difference between pistillate and staminate strawberries. As soon as they do understand the difference they will be able to read the books with some chance of practicing their directions. I therefore propose that you make the above drawings into wood cuts.

Figs. 1 and 2 represent the usual appearance of pistillate flowers, figs. 3 and 4 magnified portions of the same; fig. 3 exhibiting a part of the flower of the Large Early Scarlet Strawberry, and fig. 4 the same of Hovey's Seedling; *a* being the stamens, and *b* the pistils. By the use of a microscope, it will be found that the former is abundantly supplied with pollen or fertilizing dust, while the latter is nearly destitute. Hence, Hovey's Seedling or any other pistillate variety, can never, or but very imperfectly fertilize its own flowers, and the impregnation must be derived from a staminate sort.



NEW ROCHELLE, OR LAWTON BLACKBERRY.

The strawberry, favorite of everybody, will have disappeared from sight, unless in the extreme north, before this can appear, but your journal is eminently one of reference, and will, therefore, I doubt not, be consulted on the above topic by somebody hereafter. Let us come to the blackberry which is not yet ripe. It is now considered an established fruit for cultivation. Coming in at the warmest season of the year, it is very acceptable; but care must be taken that it does not want water. The soil should be rich and deep; a northern or western exposure is good, and a soil inclining to vegetable mould and light loam is desirable. It is now known that if the branches are trained horizontally they are more productive than when upright. As to other matters connected with this fine berry, and the Dorchester, &c., I can at this date say little that will be new, and therefore ask your engraver to give his aid for the following illustrations.



BRINCKLE'S ORANGE RASPBERRY.

BRINCKLE'S ORANGE RASPBERRY.—By very general consent this fruit is coming rapidly to be considered one of the very best for cultivation; it is a great favorite with amateurs, and is one of those gifts to man, of hybridization, which will always make Dr. Brincklè's name a household word. I have always found chippings of leather from a neighboring shoemaker or saddler, a perfect mulch for the raspberry; indeed, I give it no other manure whatever, and by carefully watching the stools that come up every year, and not allowing them to grow too thick, I have crops that are entirely satisfactory.

The Hudson River Antwerp Raspberry is a favorite market variety strongly recommended by those who know its value. It is a large, handsome berry, fruit very firm in texture, of handsome appearance, and very productive. It parts readily from the germ, and is by some called the New Red Antwerp. Rather of a dull red, with a slight bloom; not very juicy, but of a pleasant

FASTOLF RASPBERRY.

HUDSON RIVER ANTWERP RASPBERRY.

sweet flavor. The Duke of Bedford is said to have paid a guinea for two plants.

The Fastolf Raspberry was the favorite of your friend Downing, and it still holds its own in the opinion of very good judges. It is an English variety of high reputation at home, as well as here. It derives its name from having originated near the ruins of an old castle, Fastolf, near Great Yarmouth. Fruit very large; obtuse, or roundish conical; bright purplish red; rich and highly flavored, slightly adhering to the germ in picking. Canes strong, rather erect, branching; light yellowish brown, with few pretty strong bristles.

DOWNING'S SEEDLING GOOSEBERRY.

Downing's Seedling Gooseberry, the largest yet known, being about twice the size of Houghton's Seedling, its parent. Pale or light green, without any blush,

and smooth. The skin is very thin, and the fruit as delicate and tender as any European Gooseberry in its native soil. The flavor and aroma are perfect; sweet with plenty of vinous subacid. The first describer says: "I experienced the same satisfaction as I did in tasting the Delaware and Rebecca Grapes. It comes up to the best English varieties in our very different climate."

CONFESSIONS OF AN AMATEUR.

I AM confident that my own experiences have their counterparts, and am willing to expose myself for the amusement of your readers. Not that I am utterly a "Know-nothing" now, but I have bought what little I do know so very dearly that perhaps I may tell others to their advantage how I began, failed, grew wiser by experimenting, and at last got "a pretty fair crop" out of my errors.

I was "a citizen of credit and renown," as John Gilpin was, but my mother had taken me to her garden-beds when I was a boy, and I had often revelled in our watermelon patch, at our summer house. From that time, however, I was immersed in city cares; my chief knowledge of the country was derived from a visit to Coney Island, or a walk in the sand at Saratoga. Suddenly my early teachings broke out into a violent attack of country fever; I read everything I could purchase relating to trees and gardens; I formed a glowing picture of the delights of rural life, and determined to put in practice what I had so carefully learned.

I made excursions to every place advertised for sale within a reasonable distance, and thus visited several neighboring States. Prices for land were high, but at last I fixed upon a site by the advice of a knowing country gentleman, aided by the views of my wife, who had an especial eye to a hill upon which to build, and from which there was "a view of the city." The country gentleman was my next neighbor; we bore the intelligence that he pocketed ten per cent. on our payments, for recommending the land as "capital for fruit culture," but were entirely alienated from him when he purchased through a third party, my two best imported Alderney cows, at less than cost, after having declared them quite a worthless kind.

Before taking possession I ordered from Angers, France, a huge invoice of fruit and ornamental trees; consulting all catalogues within reach. My spouse is a great admirer of hedges, and having imbibed an admiration of Parisian fashions during her education in that capital of taste, we together selected the beech as the best hedge plant, and imported them by thousands. They came in good order and were planted in the best, and of course, the most expensive manner. Next spring, what was our disappointment, to find all the old leaves hanging on the plants, while all nature around was revelling in the garb of May! It was too bad—they were certainly *all dead.* My gardener had unfortunately died during the winter, so Patrick and I rooted the beeches nearly all up, and planted hemlocks from the woods. A few had been left standing, and what was my mortification and that of my wife, to see these revive in all their beauty, just two weeks after we had made a bonfire of their fellows! But that was not the worst of it. Either Patrick or I, or both of us, had neglected the proper way of taking up our hemlocks, or in planting them, or something had gone wrong; Patrick suggested "ground mice," but it seemed to me these vermin could hardly have

eaten the roots of so many thousands of trees, and left one here and there to mark our well run lines; these are now making "single specimens" slowly enough, and my hedges are yet only in my ledger.

This was bad to be sure, but was as nothing to my garden experiences. Trimming and pinching I had studied before leaving Wall Street, and I understood it, (in theory,) at least, as I thought, thoroughly. My Angers pear trees, on the quince, were looking very well; the pinching for two years had brought them into fruitfulness, and I set to work to trim them according to rule. Patrick had wormed himself into my good graces by having a hand and head ready for all kinds of work, and together we trimmed, Patrick at the root and I at the head; he with a spade following close upon my heels; as I finished letting light and air into the top and reducing the branches, Patrick came along with a sharp spade, which I was surprised kept him half the time to grind and whet; he shoved it into the roots with a will that satisfied me of his knowledge and good intentions; together we made rapid work, and then Patrick filled the holes he made with guano. We burned the brush in good time, and manured the roots with the ashes. I built at once a fruit room for the pears, according to a model I had cut out of an agricultural paper.

The dinner, on trimming days, was something to remember; such an appetite, followed by such increased admiration for the country, that my wife really thought I had gained ten pounds in the few weeks we had ruralized. I *know* that during that period I had remitted to England two hundred *pounds* sterling, for a ready made orchard and grape house, having been already deceived by my architect in several buildings he had put up. But no matter; *my pear trees all died!* Patrick said I had trimmed the tops too much, but I knew better, and discharged Patrick because he had cut all the roots off close to the butts. The neighbor who bought my Alderneys, said it was the guano put in too strong, and I was obliged to buy his fruit, or go without any.

My trimming did not seem to succeed; I have cut all my box-trees, as directed, shearing them down to two and three inches in height; I shaved down the Pyrus Japonica likewise, and lopped all the Spireas, as if I remember, directed by Mrs. Loudon; thus had few flowers from these favorites; but no doubt they are like fruit trees, and will be beautiful *for my successor* for to tell the sequel, my wife and I had no asparagus worth eating, even the second spring; our celery would not pass muster in Dr. Kane's Arctic regions, our butter was always worse than "tub," and we have got back to town lighter in weight by many *pounds*, our pockets emptied, and request you to direct your publisher to *stop the Horticulturist.* Would that I had never seen it, or thought of the "Woodpecker tapping the hollow

BEECH TREE."

AMARYLLIS.

THESE beautiful bulbous plants will be found to repay the grower who has heat at command. My way of growing them is to give alternately a season of excitement and a season of rest. To do this, they should be abundantly supplied with water, and kept near the glass, when coming into flower. When the blooming season is over, water should be gradually administered till they have done growing. The bulbs intended for blooming should be repotted about the beginning of February, into sandy loam and

peat soil, placing them in a stove or hotbed, where the temperature is from sixty to seventy degrees. Water should be plentifully supplied. Those amateurs who can find convenience for growing the Amaryllis will find these remarks useful. B.

SEA FLOWERS.

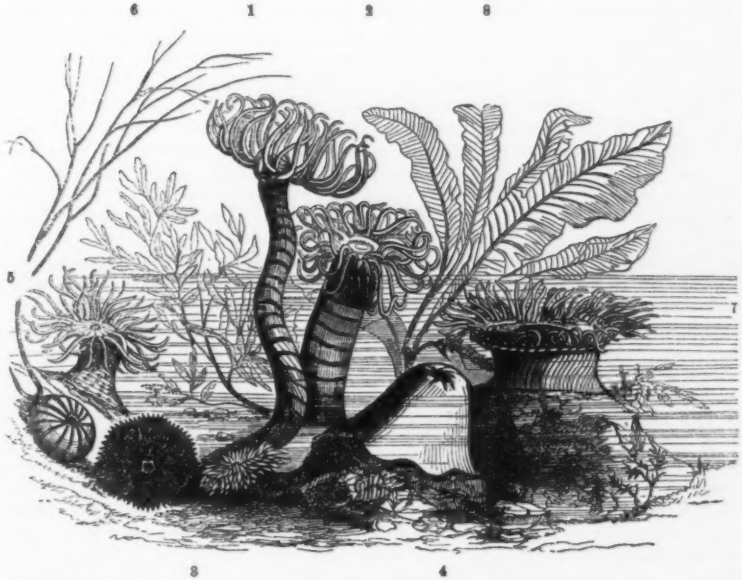
This cold weather is rather adverse to the full enjoyment of water scenes, and to talk of shoal gatherings, and brook dragging, might make delicate folks shrug their shoulders ; but I find it very agreeable to stir the fire with one hand, while with the other I point my friend to a pretty collection of sea flowers, lately fished for me on the French coast. Lovers of the aquarium should know that the available stock is no longer confined to the species indigenous to our own shores, and it may be a bit of welcome news, if I here make known one of the plans now adopted for securing specimens from other coasts. The idea originated with Mr. Hall, of London Wall, who opened a subscription list, to which all subscribers of a guinea were entitled to a guinea's worth of foreign gatherings. With the subscriptions in his pocket, and a pair of water boots on his legs, Hall steamed away, and at last found himself treading the sands on a chosen spot of the French coast, where Actinia abounds. With a plentiful gathering he returned, and at once distributed to his subscribers a proportionate number of specimens, in liquidation of their subscriptions, and my share of the booty has been delighting me for six weeks past, and it is with no small pleasure that I contrast their novel forms and colorings with those from our own coasts, and from which they differ much more than might have been expected. Bright orange and amber, delicate opal, or intense snowy white, are the predominant colors ; and although it is easy to detect in many the closest possible alliance with well-known species, of which they are but delicately-colored varieties, others have such distinct characteristics, that it cannot be doubted the lists of species admitted to our tanks will soon be considerably increased. When Mr. Hall goes off to make his next gathering, I purpose making arrangements with him, with a view to determine the genera and species distinctly before the gatherings are distributed, and if we can get him to push on to the Mediterranean this summer, we may, in our aquarium studies, manage to keep pace with the horticultural world ; the glory of which is its bold ignoring of both latitude and longitude, in the appropriation of specimens for culture.

Sea Anemones are the kinds of stock which take precedence in the culture of the marine aquarium. There is much certainty attendant on their preservation, immense variety, as to their forms and colors, and they admit us to their own peculiar region of Protean changes, so that we never fatigue of observing their habits, or admiring their changing beauty.

In the subjoined cut are represented four of the best Sea Anemones, whether for a beginner or an adept. In the richest collection the common "Mes," or *Actinia mesembry anthemum*, is as valuable as the rarest, on account of its intrinsic beauty, and as to hardiness and longevity, no creature of the deep, ever yet brought within domesticating influences, can equal it. When all goes wrong, and the pretty creatures drop from their stony pinnacles and perish ;—when the water gets putrid, and, perhaps, half a dozen degrees of specific gravity too dense—"Mes" will still be found

alive and unhurt, and will display its coral fingers and bright blue beads the moment he is lifted into a purer element. This is known by many popular names, of which the most common is "Strawberry Anemone," for the most plentiful form of it is that which strongly resembles, when closed, a well-grown *Sir Harry*. But it has so many varieties, that for mere effect this species is, in itself, sufficient for a small tank. In its most common form it is spotted on a crimson ground, strawberry fashion; in another it is of a deep maroon, without spots. There is another variety of a deep quiet chestnut; another of a dark olive green, and a rarer and exquisitely beautiful one of a very bright, almost grass, green. I have sometimes managed to get one or two specimens of each of these varieties together at the same time, and by a little manœuvering to have them all expanded, side by side, and their distinctness and variety had a most charming effect.

But there are other reasons for commencing the study of marine objects with the well-known "Mes," for its habits give us the key to the general management of collections, and its anatomy illustrates the internal con-



struction, and physiological economy, of the whole class of Zoöphytes. Take a plump "Mes" that has not been handled, or in any way ill-used, and cut him clean in half, vertically, and drop each half into a vessel of fresh sea-water, that has been agitated well; throw in also a tuft of Ulva; leave the divided victim alone for a week in a very partial daylight, and you will be surprised to find, that each division has become a perfect animal. Then either lift out the specimens into fresh sea-water, or draw off the water they are in, and agitate it in the open air, and return it quickly, and each will at once expand, and present as perfect a shape and arrangement of parts, as

if their several origins had been distinct, and no relationship existed between them. The experiment illustrates the nearness of this tribe to the vegetable kingdom, and justifies the collective term Zoöphyte, as applied to the various divisions of this lowest section of the animal kingdom.

One very striking characteristic of the sea flowers, is their capability of changing their forms, and this is in no species so powerfully exemplified, as in *Sagartia anguicoma*, of which there are three specimens, in different stages of expansion, represented in the cut. This is a most valuable aquarium species, and may be preserved for almost any length of time, if properly tended. It has one bad habit, and that is, that it will frequently let go its foothold, and lay prostrate on the pebbles, so that the slightest agitation of the water may spin it into some crevice among the rockwork, or send it bouncing against the glass sides. Its coloring is very quiet, grey, buff, pale brown, and opal white predominate; and the markings of the disk are generally pleasing and delicate. Its long flexile tentaculæ catch the eye of the most indifferent observer, and the patient watcher finds his reward in its many extraordinary changes of form. When you receive specimens packed in wet sea-weed, they are like little buttons of dirty white gelatine, but in less than half an hour after you drop them into the tank, they throw up their tall stems, and expand their long delicate tentacles in most various ways, so that among fifty specimens, there will not be two alike; and yet in every stage of presentation, there is not the slightest difficulty experienced in determining what they are. Sometimes they take it into their heads to lie full length altogether unattached, now contracting themselves to a mere pimple, then blowing out the disk, and contracting the base, and at other times assuming a regular spiral form, like a fleshy corkscrew; but the tentacles are almost always expanded, be the shape of the creature what it may.

The base of an Anemone, which corresponds very closely to the organ of adherence in a snail, or periwinkle, is the most delicate part of the whole structure. Though hard and leathery, in some species almost horny, it must never be in the slightest degree injured; like Achilles, the most vulnerable part of an Anemone is the foot, and though most species take little note of a few tentacula, and will even mend a hole in their jackets if an accident occurs to them, an injury to the sucking base is pretty sure to prove fatal. When first introduced to the tank, Anemones usually lie on their sides for a few hours, though they generally expand the disk at once; after a while they get hold of whatever their base is nearest to, and if they are healthy, they soon hold tight, and have little disposition to move about. In a vessel now before me, there are nine out of twelve Actineæ that have not moved the tenth part of an inch during the last six or eight weeks, but a couple of *anguicoma* have been all that while, and long before, perpetually on the move; and one has now ensconced himself in a dark hole which he is endeavoring to illuminate with his splendid snowy stars of moving tentacula. *Bunodes clavata*, here represented, is one that seldom stirs from its original site; and, when well placed to show off its beauty, it conveys to the mind an idea of a flower carved in ivory, by the most cunning fairy fingers. The specimen from which this has been sketched, has been seated on a block of granite since the 10th of December last, and in that time it has perceptibly grown, and appears to increase in beauty every day. It is nearly always expanded, very seldom indulges in contractions, and has a first-rate appetite. But the most perfect resemblance to a true flower, is that presented by *Acti-*

nia bellis, the sea Daisy, of which there are many beautiful varieties, all of them moderately hardy. This and *Clavata* require the water to be kept very pure, and well aired; a few days' neglect of the vessel may result in their death, and the demise of one specimen, if not detected in time, may lead to the ruin of the whole, and a general break up of the collection, so that those who desire to enjoy the presence of these rare sea flowers, must be vigilant in their attentions.

The numbers on the cut refer to the specimens as follows:—1, 2, 3, *Sagartia anguicoma*, or snaky-locked Anemone, in three different states, the last being shrunk up; 4, *Bunodes clavata* in its ordinary force of expansion; 5, the common "Mes" expanded, and closed; the row of heads resembling torquoises which surround the tentacles, is peculiar to this species, and adds vastly to its beauty, especially in the rose and coral-colored specimens; 7, *Actinia bellis*, the sea Daisy; 8, the lovely red *Alga delesseria sanguinea*, drawn from a very fine specimen; the plant on the other side is *Furcellaria fastigiata*; 6, one of the few purple Algæ that may be preserved in small collections.—S. H., *in Gawcnas Chronicle.*

DWARF PEAR CULTURE.

BY JOHN B. EATON, BUFFALO, NEW YORK.

Mr. Allen's recent article on this subject, it is to be expected, will create an awakening among the advocates of the quince stock. I observe, indeed, that one of the Cincinnatians is already aroused in its defence. I am a neighbor of Mr. Allen's, (although some miles distant from his *orchard*,) and have for several years had charge of one of the orchards to which he alludes, as having been planted nearly at the same time as his own. As I do not quite agree to all his propositions, (or rather conclusions,) I will give my "experience," as he has done.

My late father was the pioneer in the culture of dwarf pears in this vicinity; he having purchased and planted in the autumn of 1844 upwards of one hundred and thirty pears, most of which were dwarfs. At that time there was but a single dwarf tree in the neighborhood, which had not, I think, then fruited.

The trees gave indications of succeeding well and fruiting abundantly; and their numbers were annually increased by successive plantings until they formed quite a respectable collection, embracing at one time over four hundred trees, and more than one hundred varieties, chiefly on the quince. The grounds containing a diversity of soils and exposures, a difference was soon perceptible in the growth of the trees; and on a gravelly elevation in particular, it was extremely difficult to *force* them to grow, and they would not be *coaxed*. In fine, we have had a varied experience, somewhat resembling Mr. Allen's in its principal features, but far less discouraging, and wanting the fatal termination of his. Very many of the trees have done *well!* done *very well!* while many again have died. A large number perished with the blight during two or three years; but of late it has quite disappeared. Quite a number failed from some cause which I could not at first determine, but afterwards satisfied myself that it was from being worked upon an unsuitable stock, probably the common quince.

After thirteen years' experience, I am satisfied that dwarf pear culture

can be made profitable; but that it requires the following conditions in order to make it so: The *soil* must be strong and rich, and kept in good condition by manuring. It must be well cultivated, and not laid down to grass. The trees should be planted as closely as possible—say six by twelve feet apart—and they *must* be pruned. If not carefully pruned once or twice each year, they will undoubtedly run to wood instead of fruit; and not only *that*, but their heads, instead of branching at one or two feet from the ground as they should, will be at standard height, and the trees being top heavy will be continually blowing out of the ground, requiring an infinite quantity of labor and trouble to keep them in an upright position.

As Mr. Rivers well expresses the idea in his last article, "it should be strictly a pear *garden*, not a grass *orchard*," and in this nutshell lies much of the truth of the whole matter.

Of the six pears which Mr. Rivers selects, I should not place much reliance upon either Beurré d'Amalis or Vicar of Winkfield (or Le Curè); having rarely eaten one of the former which was of *good* flavor, and *never* one of the latter which was more than *passable*.

I have much confidence in Louise Bonne, Beurré Diel, and Easter Beurré, but do not consider Duchesse d'Angoulême as always reliable, although from its magnificent size and fine flavor, one can afford *sometimes* to have but a few specimens.

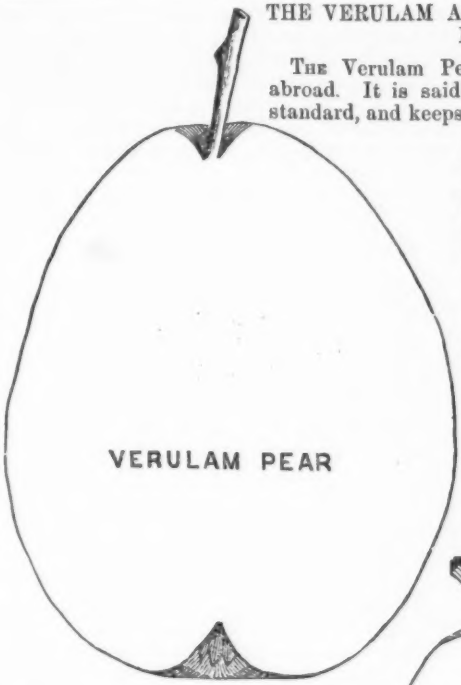
I should add to the above list with great confidence, Belle Lucrativé, and Surpasse Virgalien, both of which are of the highest flavor, and, so far as I have seen, good bearers.

If I were now to plant a pear orchard, I should arrange the rows in quincunx order, ten feet apart; placing *standards* at intervals of about fifteen feet, filling the alternate spaces with *dwarfs*. I would prune *every one* of them rigorously in pyramid form, until the standards encroached so much upon the dwarfs, as to render the removal of the latter expedient, when the former might be allowed to grow more at large. In this way, I have no doubt that, by selecting varieties judiciously, a fine return would be made to the planter.

APPLES AND PEARS.

Because an Apple is very large it does not follow that it is also very good; therefore great size alone should not be made the criterion of merit. As regards Pears, in deciding between competing varieties we ought to take into consideration all their merits and demerits, and not found our decision upon a single property. According to this rule, then, the Seckel cannot be considered a better Pear than the Beurré Diel or the Duchess d'Angoulême. Judging by flavour only, the Seckel certainly stands first, but there are other points to be looked at, and of these size is of some importance, especially when the difference between the competitor is so great that a well grown fruit of one would cut up into half a dozen respectable specimens of the other. Then, again, we should look at their respective periods of ripening. The Seckel comes into use at the same season as several superior sorts—the Jersey Louise Bonne, for instance—while the Duchesse d'Angoulême usefully succeeds the Marie Louise, and the Beurré Diel ripens still later, when Pears are much less plentiful. Besides the latter is a really good Pear when grown on standard trees and in a soil that suits it.

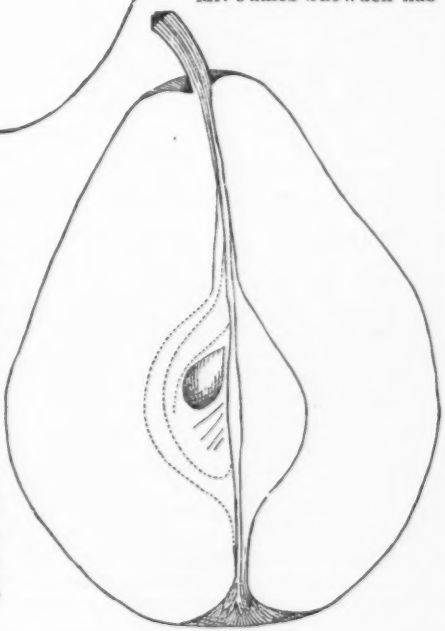
THE VERULAM AND GRAND BRETAGNE PEARS.



The Verulam Pear is coming into favor abroad. It is said to be a sure bearer as a standard, and keeps till late in the spring. It is much valued for its stewing qualities. A fine red tinge to stewed pears, the housekeeper says, is indispensable, and it is a pretty positive assurance of the presence of sugar in abundance; the addition of large quantities of sugar or syrups to pears, to a considerable extent, destroys their natural flavor. The Verulam, when stewed, becomes red without the necessity of contributing coloring matter, and is quite equal to the pound pear for the cuisine.

Mr. James Snowden has a winter pear which he thus describes:

The Grand Bretagne.—The *Grand Bretagne* in exterior appearance bears a marked resemblance to the *Beurré D'Anjou*—indeed, so strong is the likeness, that were it not for the lateness of its maturity, one might believe it synonymous with the latter kind. The tree grows stout and vigorously, with dark, yellow shoots, which stand very erect. This valuable property will much enhance it in the estimation of nurserymen, who are rapidly losing all conceit of trees that form tortuous branches, as they sadly disparage the profits of their products.



The *Grand Bretagne* is of the largest size ; *form*, obtuse, obovate ; *skin*, greenish yellow, with russet dots just perceptible ; *stem*, half an inch in length, and quite stout, inserted in a moderately deep basin ; *calyx*, open with flaring short segments, exposing a tolerably deep hollow ; *flesh*, fine, juicy, buttery and melting ; core, small in comparison to the size of the exterior flesh surrounding it ; seeds *plump*, and but few in number ; ripens latter part of December and latter part of January, preserved in a cool room.

THE VINE DISEASE.

A GREAT deal is written and published in Europe regarding the disease of the vine and potato. We have been attracted to a letter from Mr. John Malam, an Englishman, addressed to the Portuguese, French, and Spanish ambassadors, in which he says that as coal tar is one of the constituents contained in coal, which latter is of vegetable origin, and having been received from the atmosphere and soil as food for plants ages ago, I conceive it to be a very natural food for vegetation at the present period. The antiseptic, carboniferous, and ammoniacal products, distilled from coal, appear to me to be far better calculated to conduce to a healthy growth of plants, than the putrescent, fœtid, nauseous, undecomposed animal and vegetable matters in use at the present time, which latter favor the attacks of fungi and insects. Coal tar being practically destitute of nitrogen, promotes a supply of carbonic acid to the roots of plants, whilst the other product, gas water, is very valuable as a manure, especially for cereal crops, from the nitrogen supplied by it to vegetation. I have found by experience, coal tar, mixed with farm-yard and stable manure, very beneficial for oats, melons, cucumbers, &c., and when dug into the rows before planting potato sets, a prevention to the disease. It is a singular fact that the antiseptic properties of volatile hydro-carbons of coal tar have, in numerous instances, not only prevented the ravages of the vine and potato diseases, freeing the former in vineries from red spider, but have also prevented the ravages of cholera.

A Mr. Dido lately pointed out the absence of the *Oidium* on vines, the wood of which has been smeared over with coal tar. M. Sandette proposes a simple and inexpensive preservative, which proved successful in some experiments made during two years in the neighborhood of Bordeaux. In order to prevent and arrest the development of the *oidium*, it is sufficient, three weeks after pruning the vine, to smear the stem and shoots with liquid tar, applied with a brush. This operation costs very little, and has proved very successful on all plants in which it has been performed, even although they were in the midst of infected vines.

The writer thus concludes : I believe all antiseptics to be beneficial in neutralizing the effects of an excess of ozone ; the flowers of sulphur, on this principle, are useful in arresting the ravages of the *oidium*, owing to the antiseptic properties of the sulphur*ous* acid given off by them in a vitiated atmosphere being converted into sulphur*ic* acid by the ozone. Gas tar not only contains antiseptic properties, but is also calculated to supply the plant with proper food, thereby rendering it healthy enough to bear, without injury, any vitiated state of the atmosphere. As the fungi on the diseased parts of the vine might be prejudicial to them if put in the soil near the

roots, I would recommend all the diseased parts, when removed, to be burned, and the ashes dug into the soil.

In conclusion, I consider it the duty of all vine cultivators to endeavor to get at the root of the matter, and ascertain what is the predisposing cause of the disease in the vine, as no external application can effectually afford a cure. I should again recommend, then, that antiseptic manures should be dug into the soil, such as wood ashes (which contain potash,) gas tar, also doghead charcoal, lime, &c. ; and the use of all putrescent animal and vegetable manure be abandoned, in order to restore the vine to its original state of health and natural productiveness.

NOTES FROM IOWA.

BY E. H. COCKLIN, CEDAR VALLEY, BLACK HAWK CO., IOWA.

THINKING that a few hints on the natural productions of Iowa may be interesting to your numerous readers, I propose making a few remarks on the wild fruits, and some of the most important forest trees of Northern Iowa. The Wild Plum abounds, and is found everywhere, interspersed with groves of crab apple and thorn. The varieties are numerous, representing every variety of shade and color, and in size from an ounce leaden ball to the dimensions of the Green Gage. Some possessing the astringent qualities of the Persimmon, and others—the largest and finest—having the exquisite flavor of the Imperial Gage. The season of ripening is equally various. The earliest variety, which is most abundant, is red ; about three-fourths of an inch in diameter, and perfectly round. They usually command seventy-five cents to one dollar per bushel in the towns. The plum crop the past season was almost a failure, owing to cold rains during efflorescence. The little "Lark" here too commits his depredations, but not to any great extent. In some places the trees are badly affected with the "black knot."

Gooseberries of a purplish color abound, but drop off as soon as ripe, and are not of high flavor. A variety of the Black Currant grows in moist situations. It is of inferior quality, and is subject to a kind of mildew blight. It makes an excellent stock for grafting the cultivated varieties upon. It makes an ornamental bush if properly trained. Two varieties of raspberries abound : the Red and Black Cap. The latter is almost worthless when they grow in the thinly timbered districts. In point of flavor, they form no comparison with the old and well-known varieties of the Black Cap, that replenished the fence corners in the East. The Red variety is much larger, and more abundant. It is profusely spread over the prairie adjoining the timber. It is early and worthy of cultivation. Strawberries are found in most situations. There are two varieties : one being much more acid and of more conical form. The forest trees are not numerous. The Sugar Maple, (acer sacharinum,) and the White Maple, (acer eriocarpum,) are abundant in some localities. The Box Elder, or ash-leaved maple, (acer negundo,)is also found. It is a beautiful tree, coming out in leaf in early spring, before any other, its location is easily distinguished. The Butternut, (juglans cinera,) and Black Walnut, (juglans nigra.) The Cottonwood, (populus Canadensis,) is everywhere found along the streams. In adjacent districts, when the soil is overturned, the surface in a few years is covered with the trees where the seeds have been wafted by the winds. The Aspen, (P. tremulus,)

whiten the woods in many places ; the Black Ash, (Fraxinus quadrangulata,) and Blue Ash, (F. sambucifolia.) The Oaks form a prominent part of the wooded district, the principal of which are Red Oak, (quercus suber,) and Brier Oak, as it is here called. The White Oak, (quercus alba,) is seldom met with. The Quercitron, black or yellow oak, (Q. tinctoria,) is mingled sparsely with the rest. Amongst the hickories, the Pignut is most numerous. The Shagbark hickory, (carya alba,) is also found. The Basswood, (Tilia Americana,) is abundant, and is everywhere found. Of the Elm, (ulmus,) there are several varieties. The Hackberry, or Purple Ash, (celtis crassifolia,) is peculiar to the Western States, and attains a large size on some of the Western rivers. The Red Cedar is found on the banks of the Cedar River, from whence the name is derived. The shrubs and plants are numerous. Flowers of brilliant hues adorn the Prairie.

GRAPES.

BY W. T., GERMANTOWN, NEW YORK.

Your correspondent Mr. Miller, in the June No. of the *Horticulturist*, speaks of visiting some vineyards in Berks Co., Pa., and says in substance that those vineyards which received the least care produced that year the best grapes ; that they were the freest of the rot and mildew, and intimates that we prune and care too much for our grapes.

Beware friend Miller, what you say, as this is bad doctrine, and I must beg leave to differ with you ; as such treatment would not produce good grapes in New York, and I doubt if it would for a series of years even in Pennsylvania.

As regards the point where the fox flavor begins or ends, I am not *connoisseur* enough to say ; but in my youthful days I have spent much time in hunting in forests and swamps for fox grapes, and have feasted on them to my heart's content, and "desired nothing better," for in those days the Isabella and Catawba were almost unknown in this locality.

But in this age of progress when we have so many choice kinds of Native grapes, it does to me seem strange that any one acquainted with the better varieties should retain a fondness for the wild grape ; perhaps you have better kinds in Pennsylvania than we have here.

I believe that no one here ever succeeded with a vineyard unless he trenched or dug large and deep holes. Where the vines are a good distance apart, the latter way is perhaps as good as any and less expense.

The largest and oldest vineyards in New York, are at *Croton Point ;* the soil and subsoil is a porous sand, yet they trench two feet deep and work in composted manure, &c., &c., and plant about two feet deep, leaving a depression about the young vine, 6 or 8 inches in depth, which is filled up after it is established. They prune the vine, and thin the fruit with care, cultivate the ground enough to keep down the weeds and grass, and encourage no lateral roots to grow within six inches of the surface ; yet these vineyards produce annually fine grapes, free of rot and mildew.

R. T. Underhill, Esq., in speaking of the last crop, says, "The past season though the coolest and most unfavorable for grape maturing, we have had in twenty years, he ripened his whole crop finely."

In clearing up "hedges," I frequently have had occasion to "dig" out, and in all cases the top roots were the largest and strongest, penetrating the subsoil boldly, no matter what its nature; sometimes they had lateral roots but often none.

This spring I had arranged to take up a lot of about 100 bearing Isabella's; they were too thick in the rows and I removed every alternate one; they are now twelve feet apart, which is about the right distance. Some were planted on a drain which was dug three feet deep and filled in the usual way; these vines were raised from cuttings and always grew finely; on taking them up I was surprised to find the largest and best roots had struck badly to the bottom of the drain, amongst the stones in all directions, the deeply dug subsoil affording them an easy entrance.

Others were planted in large holes filled with good surface soil; they too had powerful roots penetrating far in the subsoil beyond the original hole.

The root of the grape is perhaps more sensitive and liable to be hurt by extreme cold or dry weather, than any tree or plant that we cultivate; hence the importance of using every possible means to encourage it downwards.

I am happy to state that the mildew of the fruit is almost unknown here, and no variety suffers from the rot except Catawba, and he who plants and cares properly for his vines may rely on a crop of good grapes annually.

There is a kind of mildew which attacks the foliage of vines in the nursery, but is not troublesome elsewhere.

I am surprised to learn that you experience so much difficulty in growing the grape in Pennsylvania; being in a lower latitude than we are, I supposed that the climate was admirably adapted to it.

INSECTS.—NO. VI.

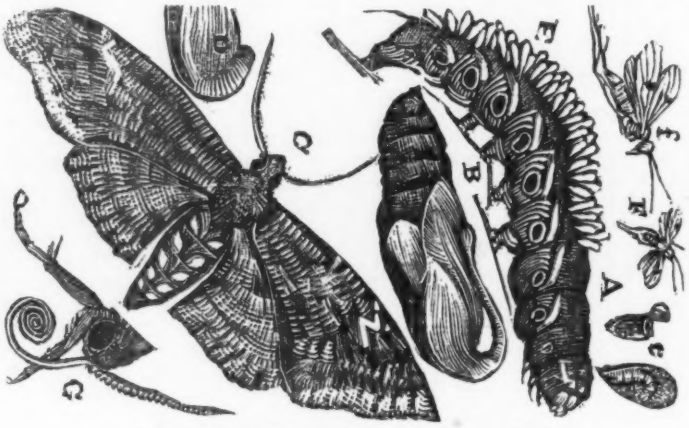
BY J. STAUFFER, LANCASTER, PENNSYLVANIA.

THE HAWK-MOTH.

The Hawk-Moths, or sphinges, are a family of large and robust lepidopteous insects; the caterpillars of which are known as the potato and tobacco worms. Some caterpillars of this family erect the forepart of their bodies, remaining in this position immovably for hours; this singular position suggested the name given it by Linnæus, Sphinx, from a fancied resemblance to the monumental sphinx of Egypt, representing the head and shoulders of a woman attached to the body of a lion. I may be allowed to say that this fabulous figure has it significancy, because it commemorates the fact, that the river Nile used to overflow its banks about the time the sun enters the sign of Leo and Virgo. My amateur wood-cut will represent the whole. Fig. A represents one of those Potato-worms, of a pea-green color, minutely lined with a series of small spots dorsally, having eight oblique white striped, with a slate colored shade on each side, over the purplish, oval spiracles, and a black, curved and roughened caudal horn on the last segment of its body.

We frequently find these caterpillars covered with small, egg-shaped cottony bodies, as shown at E, fig. A. Those contain small whitish grubs,

thickened posteriorly, fig. e, enlarged one with its hinged lid, after the perfect insect, F and f, has escaped therefrom. These are a species of four-winged flies, or Ichneumons, of minute size. The caterpillar usually survives until the whole brood, as many as one hundred and fifty of the ichneumons, are perfected, when it perishes. Otherwise, when fully grown, it enters the earth, casts its skin, and becomes a chrysalis like fig. B., of a light-brown color, remaining in the ground during the winter, below the reach of frost; the slender tongue case, like the handle of a jug, encloses the tongue extended and doubled back. Such chrysalids are frequently dug up early in June, in our potato patches; but how they manage to work out of the ground is not so plain. From a specimen dug up when laid in the sun, we can witness the bursting of the shell, the escape of the insect, weak and moist, with its crumpled and placid wings, gradually drying, and



The Sphinx quinque-maculata and Ichneumon Flies.

essaying to coil up its long tongue and extend its wings, which in the course of a few hours it accomplishes, and it is prepared to take wing. The wings are beautifully marbled, with black and silvery white lines and spots on a warm gray, ground color, expanding four to six inches; the robust abdomen has five orange-yellow spots on each side; hence called the Five-spotted Sphinx, or sphinx quinque-maculata, by entomologists. It comes near to the European privet Hawk-moth, which however has red spots, and the chrysalis has a short, blunt tongue-case as shown at D. We have several other species of this family; and allied genera of like or similar habits.

These hawk-moths, often erroneously called humming birds, because, like them, they are frequently seen to visit tubular flowers, such as the honey suckle and the thorn apple, poised on their wings; these make a humming noise by their rapid motion while their tongue is uncoiled, and seeks the bottom of the purplish-white bells of the daturia stramonium, as they expand and spread their charms at twilight to invite this rover to sip the honied nectar distilled and lodged at its base. Their days are few and evil only; having discovered the plant adapted as food for their larvæ, they lay their eggs and perish.

The numerous species of Ichneumons are ever on the alert to find a proper nidus for their brood; their larvæ feed upon the living bodies of other insects, and thereby destroy multitudes of parasites so injurious to vegetation.

These four-winged flies vary in size, some so minute as to be perfected in the egg of a caterpillar no larger than the head of a pin, while others find the carcass of a caterpillar barely sufficient for a single one; nor will they lay their eggs on one already containing an egg or eggs of the same species.

Caterpillars have various modes of defence against their common enemy; the green caterpillar with bands of black and yellow spots, common on the fennel and umbelliferous plants, is provided with a pair of orange-colored tentaculæ, called stink horns, which they thrust out, and jerk their heads back when touched with a pin or the ichneumon, giving out a peculiar odor. These are the Larvæ of the Papilio Asterias, a common butterfly of a dark, purplish-black color; the front wings have several series of yellow spots along their margin; the posterior pair are similar intermediately of a fine blue, with projecting points called swallow tail; on the inner margin of each there is a yellow, red and orange spot.

The puss-moth larvæ have singular projectile appendages in their rear; others are provided with acrid juices which they expel. All these means of defence fail to deter the brave ichneumon from accomplishing its object: they rise and alight, and at every thrust lodge an egg into the body of the doomed caterpillar, writhe, jerk, and twist as it may, in its apparently conscious dilemma. The eggs lodged, soon hatch and breed the litte maggots which revel and banquet on the fat juices of their victim, without attacking the more vital parts, so that the caterpillar still feeds languidly and lingers out its existence until the larvæ within them are matured and ready to undergo their change, when they come forth, spin their cocoons, and in a few days become pupæ; the perfect insects escape in a few days more to renew the same annoyance to other hapless creatures like the one they have just left, a dying exhausted carcass. Thus we find an endless variety, each peculiar in its choice of a nidus in the one case, as in the choice of plants in the other.

The metamorphosis of the caterpillar, as it buries itself, and like an Egyptian mummy, is confined in its chrysalis during winter, comes to a resurrection in a form so different, that the ordinary observer may scarcely believe the fact.

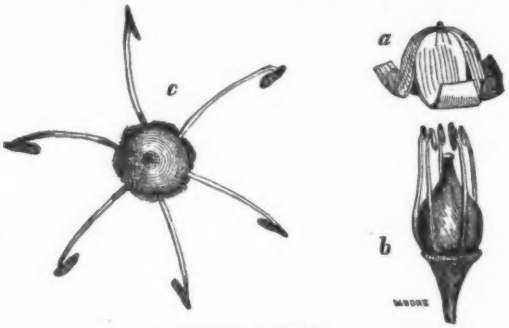
"Shall the poor worm that shocks thy sight,
The humblest form in nature's train,
Thus rise in new-born lustre bright,
And yet the emblem teach in vain?"
* * * * * *
"Go, mortal! in thy reptile state,
Enough to know to thee is given;
Go, and the joyful truth relate;
Frail child of earth! high heir of heaven!"

The "neglected American poet," Samuel J. Smith, of New Jersey, whom you, Mr. Editor, commemorated in your January number, has the following most beautiful and poetical allusion to the resurrection of the chrysalis:

"But lo! what magic bursts the living tomb!
What voice angelic bids the sleeper rise!
He wakes, arrayed in beauty's living bloom,
His new-born plumage tinged with rainbow dyes;
In air gay floating, while the sunbeam flings
A blaze of splendor o'er his glossy wings."

HYBRIDIZING THE GRAPE.

Mr. J. Fiske Allen's description of the mode of hybridizing the grape is the most lucid and practical, and as the subject is attracting attention anew we present, by the kindness of Mr. A. O. Moore, the accompanying cuts, which will make the subject easily understood.



FLOWER OF THE GRAPE.

a is a magnified representation of the bud of the grape, *c* is the blossom. The change from the bud to the blossom is usually rapid, and takes place about thirty or forty days after the shoot appears in the spring, which bears the fruit. This bud which forms the blossom consists of a covering or cap, and the embryo berry, with fine anthers, which, when the time for inflorescence has come, is raised or lifted by the anthers, and the wind blows this cap free ; *b* is the blossom, the anthers of which are to be clipped and deprived of their farina ; on the top of the embryo is the pistil ; upon this is to be placed the farina or pollen of the male plant. When this is done, impregnation takes place, and the embryo rapidly swells off. If the operation has not been effectual, the berry will remain as it is. When the grape has attained one-third of its size, it remains stationary two or three weeks, and at this time it is perfecting the seed. When this is done, the fruit begins growing again ; thus it appears that the seed will vegetate, even if the fruit does not ripen sufficiently to be eatable.

This applying of the pollen or farina of one variety to the pistil or stigma of another, is the method of proceeding to obtain new sorts in the shortest time, and is called hybridizing. That our native grapes have been hybridized with the foreign, we have no doubt.

The bunch to be acted on should be thinned of three-quarters of the buds ; the lower part should be cut away entirely, immediately before inflorescence, the strongest buds always to be left. Observe them closely, and, as soon as the flowers open, with sharp scissors clip the anthers, being careful not to injure the pistil. With a soft brush apply the pollen from the kind to be used for impregnation ; or the whole bunch which is to furnish the pollen may be cut from the vine, and gently rubbed or applied to the bunch, by frequently striking them together on every side. Repeat this for several days, until it is evident the fruit is all impregnated ; a fresh bunch, with the pollen in a suitable condition, must be had at each operation. The pollen must be dry and in a falling condition, to be fit for the purpose. The reader is referred to Mr. Allen's work on the grape, issued in New York.

EDITORS TABLE.

To Contributors and Exchanges, &c., &c.

Communications, Letters, Catalogues, Periodicals, &c., &c., intended for the perusal of the Editor, should be uniformly directed to the HORTICULTURIST, *Germantown*, (*Philadelphia,*) *Pa.* Packages by Express, &c, should be directed to the Editor, as above, by name ; they will thus reach him almost beyond a doubt.

THE PARK.—There is scarcely a subject connected with the topics appropriate to this Journal that interests the lover of trees, scenery, and humanity more intensely than that of Parks for the people. It has been long a topic of the *Horticulturist*, which indeed has the credit with many of having originated and encouraged the idea for New York and other places. When once a good specimen is seen, our people will excel in the formation of pleasure grounds, and we shall have them attached to every city and town where there is a particle of taste or public spirit. One *good* example will prove sufficient to stimulate our population everywhere. It is consequently of the greatest interest that the park, commenced with so liberal a capital, should be correctly and artistically planned and finished. Various correspondents have sent us their ideas, and others have overwhelmed our tables with newspapers and so forth, as if expecting the *Horticulturist* would take sides with this or that party struggling for power. This we cannot do, nor can we ever be content to give a partisan coloring to these pages. But there is a right and a wrong way of making parks, and we look on for the present with intense interest on what is going forward, quite incompetent to contend with the politics and the politicians, who have torn the whole subject into shreds, and shall we say "patches." When the fog has cleared up, we mean to look after *the* Park, and meantime select the following communication from the many appeals before us, as the most suitable one we have received to place before our readers. Mr. Chorlton when he takes his pen is very apt to know what he is about. Some of the best qualified to advise respecting the Park have stood in the back ground, because park-making is like painting a fine picture, and they ask if Wouvermans or Claude Lorraine would consent to produce a master-piece under orders of a political mayor, or have their little bill of road-making disputed by the common council, who would call a willow an oak, and wonder what people wanted better than any shade tree that would cost the least money. But *after all*, we are to have a Park.

Some fear is expressed as to the safety of entering or crossing it at night, when there will be so many places of concealment for rogues and murderers.

THE NEW YORK PARK.—MR. EDITOR—You are aware that the Commissioners chosen for carrying out the Central Park of New York, some time ago, offered four prizes for designs, the value of which respectively were $2000, $1000, $750, and $500. This inducement, combined with the ambitious feelings of our best Rural Architects and Landscape Gardeners, has developed such an amount of talent as is rarely to be seen. The final time fixed for the presentation of these plans, with estimates of expenses, and detailed explanations, was the first of

April last past, and the result was thirty-five in number, two of which, however, were not for competition. After the decision of the judges it was agreed that the whole should be exposed to public view at twenty-five cents entrance, for the benefit of the unsuccessful competitors. Taking advantage of this, I went the other day to see them, and was much pleased with the artistic skill, and noble ideas, that were collected into one view. As might be expected in such a case, there is every grade displayed, from the highest appreciation and conception of the grandest landscape, down to geometrical "moonshine;" but enough of the former quality is exhibited to convince the whole country, that we have more talent existing than we have been in the habit of believing. After reducing the collective number to some twelve or thirteen, this is clearly verified, and leaves not a little study for the most qualified critic to decide upon the comparative merits of each; and, were it not for a distinctive difference in the bold and elevated ideality, contrasted with the approach to tameness which exists in some three or four of the best, it would have been a most difficult matter for the Commissioners to have chosen the *really best*.

The one to which the first premium is awarded, well deserves its position. The admirable way in which the undulations of the drives and footpaths are in harmony with the different elevations of the ground level, and their easy, graceful, yet bold curves; the appropriate grouping of trees and shrubs, the arrangement of each part of the general whole with an eye to convenience, without interfering with the main design, all contribute to entitle it to become the approximate portraiture for which it is intended. It will be well if the Commissioners complete the work as the design dictates. There are one or two trifling improvements that might be made, but these ought to be done by the authors, for any foreign interference would only break up the originality, and, most likely, produce an abortive effort. Considering the peculiar form of the site of operations, an extended parallelogram, with nothing as outside surroundings but straight-lined avenues and right-angled streets, and also that three of these streets lead to, and must cross the intended park, and further, that a large portion, in the centre, is to be devoted to two reservoirs for the supply of water to the city, the designers have had more than ordinary difficulties to contend against. The first of these has been overcome by arranging for the general traffic to pass under the elevated park drives, and the latter by winding around the exterior boundary of the embankments, and judicious planting, so as to hide what would be, otherwise, a nuisance; while the water level itself will be seen as a small lake from a walk arranged for the purpose.

The second prize plan provides for these difficulties, but not so effectually. It has, also, the merit of being an improvement of the present site without breaking up the naturally rolling and picturesque surface, the which would save much expense in the execution. Herein consists its greatest excellence, but with these exceptions there are others that are discarded, which, to say the least, are quite equal, more particularly in the grouping of the trees and filling up of detail. The third prize is an attempt to produce an umbrageous effect with straight line and circular curve. In continental Europe, on a level plain, this would look well enough, but it is not at all adapted to the intended locality, nor yet the more majestic and boldly extended character of American scenery generally. The fourth prize is quite equalled by several others; notwithstanding it displays very fine ideas.

All the best designs, and, in fact, those only that are worthy of commendation, embody the principles which have been so strenuously laid down by the master minds of such men as Downing, Repton, and Loudon, and it would seem that all attempts to the contrary cannot begin to compare with this softening down of Nature, and the moulding our improvements to harmonize with the scenery of the country, or character of neighborhood in which they exist. There, perhaps, never was a better example, than is shown in this exhibition, of the truth of this fact, and it is very gratifying to know that we have so many practitioners who are capable of giving satisfaction to all who may require their services and can appreciate the beautiful.

Respectfully yours, WM. CHORLTON.

REBECCA AND DELAWARE GRAPES.—So anxious have grape lovers been to obtain the new grapes, that growers have been obliged to sell small plants forced in hot beds, to supply the demand. It would be no wonder if the poor starvlings had not proved hardy; outcry has been made against them, but notwithstanding this they are hardy grapes.

LAWNS.—Nothing but cutting frequently will make the lawn, which is the most important feature of your grounds, what it ought to be. You may shirk the mowing, plant expensively, trim industriously, make flower beds, and bed them out at great expense, but if you neglect your grass, the place will always have as ill an appearance as a looking glass without a frame. Frequent mowing induces root growth, and the grass is less likely to burn in hot, dry weather, than when left to itself.

MANURING FOREST TREES.—A correspondent of the Gardener's Chronicle says on this important subject:—

"I have made a few experiments and observations how trees might recover their health and become useful and ornamental to those who possess them. The want of proper nutriment either to vegetables or animals soon shows itself in one way or another, and food applied even in a rough state is to all appearance greedily received when animated beings are in want of it. The trees I intend to make a few remarks upon had fallen into a languid state through want of food, or in other words the soil appears to have been worn out by means of the crop that grew upon it. In a hollow part of a wood where some Elms and other trees were planted some years ago symptoms of decay manifested themselves in a very prominent form, such as the leaves turning yellow early in the season and falling off, when others in a more healthy state remained longer to perform the office assigned them. Leaves in such a state make little wood for the tree that bears them; the young shoots apparently never ripened their wood, for many of them died, and the trees altogether had a decaying appearance. The hollow ground was used to put rubbish in that came from the garden and other places. It was thought at first that the rubbish would kill the trees by burying the roots too deep, but much that was put there was of vegetable origin, which soon decomposed, and being of a porous nature did not prevent the air from reaching the roots, and instead of injuring the trees they soon began to show signs of improvement. Their health recovered rapidly, their leaves expanded in length and breadth, their shoots did the same, and their leaves instead of being the first to droop in the autumn, continued to hold on as long as most deciduous plants do. From these observations we may learn that even old trees may be made to have a healthy old age, and young ones that have set prematurely in their growth, from want of proper soil to grow in, or some deficiency in the constituent parts of the soil, may be made either by liquid or solid food to resume a healthy state, and may live from generation to generation a shelter and an ornament in the place which they occupy. Liquid manure may also be applied with advantage to forest trees. In a plantation where the trees were chiefly Oak, Elm, Maple, Spanish Chestnut, and Birch, and the soil light, the subsoil being of a clayey nature, where liquid manure was applied to some of the trees, they profited greatly by it. The few Elms that remain in the plantation in the natural soil measure on an average about 1 foot 7 inches in circumference at 3 feet from the ground; the Maples or Sycamores in the same soil measure about 1 foot 9 inches in circumference at 3 feet from the ground. In the same plantation and same soil there are two places where the Maple and Elm have grown much better than the rest. These have had their roots occasionally watered with liquid manure, and the difference in the measurement of the stems shows that they agree well with such treatment. In one of the places the circumference of the Maple 3 feet from the ground is 3 feet 5 inches, and contains about 12 cubic feet of timber, and the Elm measures 4 feet in circumference, and contains about 20 cubic feet of timber; in the other place the Maple measures 3 feet 6 inches in circumference, and contains about 14 cubic feet of timber, and in both places the trees are remarkably healthy, and stand about 18 feet apart. It may be a long time before such manure can be spared for growing forest trees, and there are

some kinds to which it would do more harm than good if it were applied, such as Pine and Fir trees; but if even the slops thrown away as waste water from gentlemen's and farmers' kitchens and dairies were applied to the purposes of arboriculture, there would be both pleasure and profit derived from the application. Many trees may be seen growing in soils naturally poor and unfitted to carry heavy timber without assistance, and trees considered by many to be in the last stage of existence may be made to renew their growth; for, give a tree room to grow and food to live upon, and vegetable physiologists will not be able to tell how long it should live and how large it should grow."—*P. Mackenzie.*

The reader of the *Horticulturist* has frequently seen paragraphs on the feeding of trees. In a late number, a valued contributor replying to a former article, says, "Do *not* feed your plants (Evergreen Plants) well; on the contrary, if you have any doubt of the *hardihood* of a plant, *starve* it; let it make little growth, but well ripened wood." This is good advice, but we are reminded by "A Hasty Reader" that this upsets the received theory. Pray remark that the writer says, "If you have any doubt of the *hardihood*," &c. The advice given on both sides is correct; thousands, nay millions of all descriptions of hardy trees are planted in bad soil, in a hole filled with earth more or less adapted to their wants; they soon exhaust their first meal, and send rootlets to the bad surroundings where they meet with nothing to nourish them; they cease to grow with their *natural* rapidity and vigor. Dig round the roots, insert their natural food, and they recover and progress. No man that has the slightest practical knowledge will attempt to *over-force* his plantation; at the same time it remains true, as we stated in the *Horticulturist* ten years ago, that "trees may be fed with as much propriety as chickens." In the operations of nature we see the leaves annually decay and nourish the root; there is no objection to bringing leaf mould and applying it with a shovel as a top dressing; the nourishment designed by nature is carried down by the rain to the roots; there is no reason why we may not assist the process still further and bring the natural food of our plants to the roots where the nourishment will be sooner imbibed. The danger consists in over-forcing and especially in over-forcing so much that the new growth will not bear the coming winter's cold. This takes place in some of the States of the Union where they have an almost tropical summer and an arctic winter, and we see the growth bears evidence of the injury; the trees present dead limbs, especially on the north side and where no shelter occurs. Sometimes the whole outside of an "opening" will present a phalanx of dead wood.

In our last number, guano is recommended under certain circumstances, and in moderate dilution, to promote the growth of conifers (hardy); it is simply supplying what nature demands when it is otherwise deficient in the soil. The opinions of our two correspondents, H. W. Sargent, Esq., and the Rev. A. D. Gridley, do not differ so much as "A Hasty Reader," supposes; the one would very properly rather *starve* a tender conifer than over-force it by food; while the other would feed his hardy trees "with generous food, that they may make a vigorous growth, and always wear the bright hues of health." He would not of course convey the idea that they should be fed so much as always to have the sickly hue of disease, or be subject annually to the destruction of their unripened wood.

SUBSTITUTE FOR BOX-EDGING.—The following from the *Gardener's Chronicle* will interest some of our readers: The grass selected for trial was the common Sheep's Fescue Grass (Festuca ovina). A patch of this was sown, and the young plants—easily separable from other kinds of grass by their appearance—were planted with the dibble at two or three inches apart. They soon formed very elegant lines of slender green blades, more graceful in appearance than lines of box, and equally effective. The only objection that we have discovered is, that the green color of this kind of grass is rather dark and heavy; but nevertheless it is the best kind of live edging next to box which we have seen, and is far cheaper than that, and from this cause alone is to be preferred for many purposes.

The Sheep's Fescue Grass forms a continuous or linear mass of bristle-like leaves, the central ones standing erect, about three inches high, the side ones falling over gracefully, so that the

edging is from four to six inches through. In early summer the plants throw up their culms or flower-stems, which average a foot high, and are quite erect; these may be removed by clipping at any period after they are formed, and this is probably all the attention that would be required in ordinary cases. The plants afterwards go on filling out with leaves, but without increasing much in bulk, and may either so remain or be cut close in autumn to remove the dead blades and secure fresh green leaves.

This grass being strictly tufted in its mode of growth, the distance between the plants should not exceed three inches, in order that there may be no gaps between the little tufts, but that the plants may fill out the edging lines evenly and compactly. It is, moreover, important that of the many varieties of Fescue Grass, *one* only should be planted, otherwise the growth will not be even. The common sort, being the dwarfest and shortest in the blade, is the best for the purpose. A very small quantity of seed will furnish plants for a considerable length of edging, so that a few experimental plants would furnish an ample supply in most cases.

STANDARD ROSES.—Standard Roses, now so much in vogue, require a good stake to preserve them from toppling over, the heads being often too heavy for the root. A plan of fastening standards to supports has been introduced, which is found to be perfectly satisfactory. It makes a capital strong neat tie, without the chance of injury to the plants or their getting loose: it is merely a band of soaked straw, tied with strong string between the plant and support, and at the back of the stakes. It is well adapted to other plants requiring like support.

While on the subject of Roses, we may here repeat the following on propagating this flower by layers, from the "Country Gentleman":

PROPAGATION OF ROSES BY LAYERS.—June, or one-seasoned roses, are to be met with in almost every garden. It will take a long time to drive them out of the fields, with perpetuals and other roses, nor is it desirable. A rose is a rose, and many of the June roses are exceedingly beautiful and fragrant. These and Perpetuals are mostly (or readily) propagated by layers. The middle of July is considered about the best time—method of procedure similar to any other kind of layers, as follows: Select shoots eighteen inches or two feet long; cut off the leaves close to the shoot about two-thirds of their length, leaving them on at the top of the layer. Bring the shoot to the ground to ascertain the place to make the hole to receive it. If the soil is not good, take out a hole sufficient to hold a peck of made soil, which should contain plenty of sand. Then tongue the shoot, *i. e.*, introduce the knife just below a bud, and bring upwards, making about a one inch length cut; place a small piece of stick to keep the tongue open; then use a crotched peg to keep the layer in its place in the soil. By October or November the layers will be rooted, and may be transferred to the nursery row, or any other position desired. The stoutest rooted ones may even be potted to force early into flower.

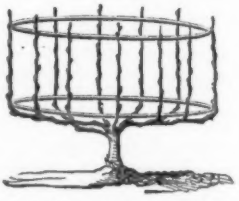
E. S.

"HOW PLANTS GROW," is the title of a new book by Professor Gray, intended as a popular introduction to the study of Botany. It has also "A Popular Flora" attached. We know no writer who is so lucid as Dr. Gray, and we trust that his new publishers now placing his works before the world in a popular form will be rewarded. Ivison & Phinney, New York.

BULBS PRODUCED BY OLD BULB-SCALES.—Two ladies on a return from the south of Europe in 1856, placed specimens of dried leaves, seeds, mosses, &c., in a book with black sheets of paper. A bulb found on the rock of Gibraltar being too large, the lady took off three

pieces of the outer skin or scales from the outside of the bulb, and sewed them with thread to one of the paper leaves of the book. After their return, the book was placed in her dressing room, and in 1857, having gone on another tour, on their return, one of them took the book from the press and was surprised to observe that its cover was not lying flat but bulged up; she opened it, and to her astonishment found that from the bottom of each of the three scales, small bulbs had commenced to grow. This book had been in a perfectly dry state in a dry room for more than a year, and fourteen months had elapsed since the scales were sewed in. This curious case is analogous to one recorded in last year's *Horticulturist*, page 169, with an illustration.

TRAINING GOOSEBERRIES.—To prevent the shoots of Gooseberries growing downwards, by which the fruit gets soiled, and is rendered unfit for use, I have adopted the following plan: I make hoops of hazel boughs, and place them over the gooseberry plant. Two or three stakes are required to fix the hoop to, that it may be at a proper height from the ground, to hold the bunches sufficiently high. If one hoop is not enough to hold all the bunches properly up, two hoops may be used. The stakes will require to be left high enough to admit of the second hoop being placed, should it be requisite. Should any of the shoots be ill-placed, they may be adjusted, by being tied to the hoops."—J. READ.



[Your mode of training the gooseberry tree is good, not only for the purpose of keeping the fruit from being soiled, but to admit light and warmth to the centre, for the better ripening of the fruit. The annexed is a woodcut representing this mode of training. Many other plants are beautiful, trained in this way. For instance, the head of a Standard rose with an open centre and a rim of roses looks like a wreath, and is highly ornamental. A box *tree* thus spread out may represent a vase, and the open head tends to its successful growth.]

LAYING OUT A GARDEN.—If the lines of walks in a garden are ungraceful and inartistic, it is not likely in other respects it will be an example of good design. But even supposing it were so, the circumstances of the walks being entirely opposed to this would sadly mar the general effect. There certainly is something anomalous in the fact that the eye which can appreciate, and would not for a moment tolerate other than the beautiful, in a building, in furniture, in ornament, in dress, should yet day after day endure forms in flower-beds, and lines of walks in gardens of the most tasteless and common-place character. A fundamental rule in determining the direction of a walk is that some apparent cause must always exist for every deviation from a right line. Mere curves in walks for which no reason is assigned, are unmeaning and absurd, and exemplify the worst possible taste.

The practice of placing a resting place, or covered seats at any given points in a walk commanding a pleasing or particular view, is a common one, and may with propriety be *occasionally* followed, for as the practice is a species of trick, it will, like all other tricks, if frequently played off, disgust rather than please. It implies a degree of compulsion, and we never truly enjoy anything which we are compelled to do. Where pleasing objects or distant scenes can be commanded, they should if possible be brought into view as a matter of course; the pedestrian ought not to feel that he is brought to any particular spot for the mere purpose of being shown something, but that the several beauties which delight him are the natural concomitants of the locality.

Even width of walks is a matter of importance in the general appearance of a garden. If too wide they reduce its apparent size, and give a bare appearance; and on the other hand, if too narrow, they are mean looking and inconvenient. In gardens of tolerable extent, the walks should not be much less than six feet wide; but there must ever appear a degree of relationship between the size of the garden, the extent of lawn and shrubberies, and the breadth of the

walks. And there will always be found to exist a certain relative proportion between them, which should be adhered to if an harmonious effect is to be produced. The degree of convexity of a walk adds much to or detracts from its good effect. They are too often rendered both unsightly and inconvenient by the excess of this. To such an extent is it sometimes carried that the only part where one can walk with any degree of comfort is on the extreme edge. And then the sides are usually of a corresponding depth, presenting for several months after every periodical "edging" a harsh line of bare earth. The walk which has the best appearance, other circumstances being equal, is one that is not higher in the middle than the grass margin at its sides, and where those margins are not more than half an inch deep and bare earth not perceptible.

It is important to bear in mind that the repose of a garden will be in a great measure destroyed, and its apparent extent much lessened if the walks are allowed to be conspicous in the general scenery. Though a bold curve of walk with its appropriate appendages forms a pleasing and effective interlude, the walks, as a whole, must be kept subordinate.

DIELYTRA.—A correspondent in Hartford, Ct., informs us that he has seen a border some thirty feet long filled up with large Dielytras, all in perfection of growth and bloom, edged on one side with moss pinks, and on the other with Deutzia gracilis! It was exquisitely beautiful.

PLANTING.—A valued and enthusiastic planter thus writes us of his pleasant spring operations: "Haven't I tramped miles in search of good specimens of hemlock! My man, Patrick, and I start off every day after breakfast in a lumber wagon for the hill-sides, taking along a watering pot, shovels, and spades for digging, old sacking to cover up the roots, and ropes to tie the tops so that they shall not get bruised. A basket of creature comforts goes along with us, and the last received *Horticulturist* and a daily paper for my reading while waiting. Arrived at the hills, I go about seeking beauties, mark them, and Patrick follows on and digs them up with wonderful care. Of course, we don't cut off the roots close to the tree, or shake off the dirt. A wagon full obtained, we go singing home, and when the trees are planted, I feel very rich. The watering pot on the road is kept in use to prevent dryness in the roots, which I find important."

FISH AND DORMICE.—The movement by the New York Agricultural Society, in offering a premium for essays on the cultivation and domestication of fish, we have already designated as it deserves. The subject is not only discussed in intelligent circles, but *practice* has already demonstrated its importance. It is a matter of surprise that any people should starve in immediate proximity to a sea swarming with food. It will soon be equally wonderful that any farmer having a stream capable of rearing fish should allow such a source of wealth to run to waste. Things go round in cycles; in ancient times the Romans cultivated fish at great cost, if only as a delicacy. Lucullus had a mountain pierced near Naples, to admit the sea into his preserves, and expended more money upon it than upon his whole villa. Another who possessed a villa, otherwise of very humble pretensions, had preserves for fish of such a size, that he sent six thousand to Julius Cæsar on the occasion of his triumphal banquets. These *refined* ancients also cultivated dormice for the table. Varro gives an account of a preserve for dormice which was to be paved, to prevent the animals from escaping, and to have within the inclosure oaks to supply them with acorns. But when the mice were to be fattened for the table, they were kept in the dark in stone jars, and fed on acorns, walnuts, and chestnuts. Who speaks first to resuscitate a *dormicery?* which, after all, may be about as reasonable as a dark hutch for rabbits. Preserves for sea-snails or periwinkles were popular before the civil war between Cæsar and Pompey. Shell fish were fattened with a mixture of boiled wine, meal, and other substances, so that they became quite an article of luxury; they increased the size by breeding, so that the shell of a single animal could contain as much as fifteen quarts. One of the large pinnæ are doubtless here indicated.

THE VINE MILDEW having made its appearance in one of my houses, I tried the following plan of curing it: Having shut the house quite close, I got four large flower pots, and half filled them with lumps of quick lime; having sprinkled it with water, I strewed a handful of sulphur on each pot, and let it steam up through the vines till it quite filled the house with steam. On the following morning I opened all the ventilators, and gave the house a good syringing till I quite saturated it. I repeated the same the following day, when I found that the mildew had wholly disappeared. I have also tried the same remedy for red spider in a peach-house, and I soon found it to vanish. If gardeners will use sulphur in this way, they will find no ill effects from it; as soon as they have strewed it on the lime they can leave it till the following morning.—*J. James.* [An excellent device.]

STATE FAIRS.—IOWA, at Oskaloosa, Sept. 28-Oct. 1. KENTUCKY, at Louisville, Sept. 7-11. Competition, except for farm and garden products, open to the world. ILLINOIS, at Centralia, Sept. 14-17.

CATALOGUES, &C., RECEIVED.—Catalogue of 1857 and 1858 of Fruit and Ornamental Treess Vines, &c., for sale by Isaac Pullen, near Hightstown, N. J. Full and correct.

Premiums and Regulations for the Ninth Annual Fair of the Ohio State Board of Agriculture, to be held at Sandusky the 15th, 16th and 17th of September, 1858. Characterized by the good sense and practical knowledge of our Ohio friends.

Annual Report of the Agricultural Society of the State of New Jersey. The Jerseymen are determined not to be left behind in the race, and if any State was ever well situated as regards two markets, New Jersey is the one. She has an important mission to fulfil and is actively engaged in doing it.

FOR MARKET PURPOSES.—Even a Boston monthly says, of the Summer St. Germain Pear, in his June number, "compared with the Boston, Tyson, and Rostiezer, *it falls short* of the require, ments of a superior pear; but judged by the popular standard of *a market pear*, as *we* judge the Bartlett and some others, *it is a valuable variety.*" Is it possible? In his own language, "the public may truly say, the smallest favors gratefully received," and we add for him, inferior in proportion.

GREEK IDEALS OF GARDENING.—We ask the attention of readers to the article of Professor Edward North, on page 299. The writer is a master indeed of English style.

WISTARIA, WISTERIA.—The engraver, in the frontispiece to the last number, printed Wisteria on the plate instead of Wistaria. The plant was named after Dr. Caspar Wistar, and it should always be spelled with an *a* instead of an *e*.

CONQUERING THE CURCULIO.—Mr. W. N. White writes from Augusta, Georgia, that he has succeeded this season in conquering the great enemy of the plum. He says: "Forces employed against him—one man, one little girl, three two months' pigs, sixteen Brahma fowls, and two Muscovy ducks. Implements, a mallet and tin bucket. Modus operandi: the nectarine trees being the most dangerous point, were fortified by keeping the troughs for watering the fowls, &c., underneath them. The trees were briskly shaken every morning—jarring the large ones with a mallet. Under the bearing trees, the corn for the fowls, &c., was scattered directly after they were shaken. At night, all the fruit not consumed was picked up carefully by the little girl and boiled and fed to the cow. Result: though plenty of fruit was visible the first few days, the enemy seems to have retreated. Plums are beginning to ripen, so the crop may be regarded as secure. Some twenty-eight sorts of plums, and two nectarines are full of fruit, which will yield probably ten bushels at least; had the trees been large enough, they would have yielded three times as much with no more trouble; half an hour a day will more than do the work in an orchard that would yield fifty bushels of fruit; except the packing up, which is a trifle."

FRUIT.—He continues: "An unequalled fruit crop is rejoicing our section of Georgia, and in all the lower part of the State. Above us, in the mountain section, where our great apple crop is made, nearly everything was cut off by frost the last of April. There is a fine crop at Fruitland, near Augusta. Here in early June, we have already three varieties of ripe apples, viz., May, June, and Harvest; and of Pears, Amire Joannet and Madelaine; Plums, the Chickorow and the Gentleman, the latter a new variety from Germany, which seems quite as early as Primordian and of fair quality for the season. We have also the Apricot and the Cherry in great perfection."

In a Southern paper we find it stated that the *Shockley Apple* was kept over till the "*May*" came to perfection this season.

MERITED REBUKE—MR. EDITOR.—A certain youth who signally failed in establishing the "Florist" in Philadelphia, has taken upon himself to give an opinion upon what a periodical should be, thus trying to shame *his own*, while he gives vent to his spleen. No doubt he considers himself qualified to give an opinion on the bench of the Supreme Court, or on any subject; but I suspect his place will always be where he began, at the lower end of the potting-bench. "Scott's Seedling Strawberry," noticed in the "Country Gentleman," was no doubt named after him, as both he and it are "wholly without flavor." I find the following merited rebuke to this upstart in the "Country Gentleman." Mr. S. had essayed a reply to your correspondent, Mr. Allen, who says:

"Another word: a writer, R. R. S., immediately following your editorial, under the head of 'Pear fungus' says, 'a prominent critic has lately asserted that of the *causes* of the *crack* and *blight* which attacks the *Virgalieu* and other pears, "*nothing* is known but that it exists;"' and goes on to quote what 'one of the ablest *Cryptogamic* botanists of the day' says about it. This new and wonderful authority talks of '*Cladosporium*,' and 'Helminthosporium!' Shades of Lindley, Michaux, Nuttall, and company, deliver us from such a commentator as R. R. S., and let him tell us in understandable English language what the cause of the 'crack and blight,' *is* if he knows it, and then how to avoid and cure them, without smothering us in nonsense."

THE PATENT OFFICE.—A Committee on the Patent Office has reported favorably on the qualifications of Mr. D. J. Browne, and forwarded their conclusions extensively.

GOOD RULES TO OBSERVE.—1. Never to water but when the plants are actually in want of it; that is easily known by feeling the soil with the finger. While it is moist no water is needed. When it feels dry, then water, which will not be found to be necessary oftener than three times a week in autumn and winter, and once a day in spring and summer, giving it copiously every time, and allowing it to run away entirely from the plant, so that the pots may never stand in it. The water used should be either rain or river water. If necessarily from the pump or spring, it should be allowed to stand in the air a day or two before using.

2. To give plenty of air at every possible opportunity, *when the weather is mild*, either by having the window up, or by removing the plants outside. If, in warm weather, this is done under a burning sun, the pots will have to be shaded, as the sun upon the sides of the pots would greatly injure the plants; if in bloom and exposed to the sun, the flowers would soon fade and drop.

3. To keep the rooms where plants are at as uniform a temperature as possible, and the plants themselves as near the window as convenient, except in severe weather, when they are better near the middle of the room during the night.

4. To examine them occasionally, to see if the pots are full of roots. When this is the case, if the plants are thought worth it, shift them into pots of a larger size, potting in good soil, or if not shifted, more care must be used in supplying water, as they require a larger quantity when in this state. In summer, water frequently over the foliage, but not unless they also need it at the root as well.

These may be adopted as very general rules, though more absolutely necessary to some plants than others, but will be found beneficial to all.

There is a good deal to be considered in buying plants, in making the proper choice; for, however gratifying it may be to have those which look the best in full bloom, it is most satisfactory to have those which last the longest in perfection, especially those which have a succession of bloom, and *whose foliage is interesting when the bloom is gone.* This rule may be deviated from in behalf of Tulips, Hyacinths, Crocuses, and other bulbs, which are valuable when little else is in flower; they will also bloom in the darkest streets of cities. These should be purchased either in the beginning of *November*, when the roots are dry for planting, or in pots, when they are beginning to grow; for if delayed till they are in bloom, nine-tenths of their value is lost, because they are interesting in every stage of their growth, from the first formation of the leaves to the perfection of the flowers. Every day of development has its charm, and therefore they ought to be possessed from the first. All these require a plentiful supply of water, when in a growing state; and if kept cool after showing flower their season of blooming is prolonged.

CRYSTAL PALACE DOINGS.—It will interest our readers to peruse the following items from the Crystal Palace, London, where things are done on a magnificent scale:

"The forcing house for supplying the Crystal Palace is of the very best, and of the very simplest kind. It is one hundred feet long; ranges nearly south and north; is twelve feet wide, outside measure, and eight feet high in the centre over the path, which runs along the middle of the house. The path is three feet wide, and there is a flat shelf of open woodwork on each side of the path. The shelves being as high as a man's hip bone. So that neither male nor female can sweep off any of the pots, on either side, when walking up the centre. 'A monstrous comfort, is it not?'

The outside walls are a little higher than the shelves, and a span-roof completes the house. There is a four-inch flow and return pipe under each shelf, and high enough from the ground, to allow the bottom ventilation *to enter below them.* 'Cold currents' are thus avoided, as the cold air must come in contact with the warm pipes, before getting to the plants. The house is in two divisions; the one next the boiler being the hottest, and the contrivance to confine the circulation to one end, when that is desirable, is most simple. A stop-cock is in the top pipe, and a pipe communicating between the top and bottom pipes, just behind the stop-cock, and between that cock and the boiler.

"In the end, which is the forcing division at present, the night heat is just 50° to 55°, but they allow a play of 40° degrees between the night and day temperatures; not with fire-heat, however, but by not giving air till the sun heats up to 90°, or, with a little top air, to 100°. This is coming close to Mr. Cidd, and Mr. Latter's way of airing cucumbers in winter.

"The old rule of 'one to six' recurs to one on hearing the niceties of ventilation; that is, for one inch of top air, give six inches at the bottom ventilators, and never depart from that rule, in winter and spring forcing, until you are forced yourself out of it, by sun heat rising beyond the heat which the plant, or plants, you are forcing can endure.

"Hyacinths, Tulips, Narcissuses, Crocuses, Azaleas, Hydrangeas, Pinks, Cloves, *Cytisus racemosus*, *Acacia armata*, seedling Cinerarias, and China Primroses, *Deutzia gracilis*, *Dielytra spectabilis*, and all such established favorites, force from February without any bottom heat, or plunging, and will not suffer *in sun moist heat* up to 90° for two or three hours daily, provided the night air, or heat, is as low as 50° in mild weather, and 55° when the frost is sharp. No plants were ever forced better.

"The Hyacinths are the best of the old cheap kinds, they are potted in large 48-pots, or small 32's, in good holding yellow loam; and the bulbs are entirely on the surface of the soil, the leaves of all the offsets they make are pinched off, as soon and as often as they can be laid hold on; but the bottom, or bulb part of the offset, is never touched; the wound which the separation from the old bulb would cause, might kill, or very much injure, the old bulb in the dead of winter. The old *Waterloo* Hyacinth throws up four flower stems from one good bulb, by this treatment; sometimes three, and very seldom less than two, as may be seen round the basin of

the crystal fountain all the spring. The *Waterloo* is the highest colored one there—a crimson in fact—far better in color than we generally see it; but the immense body of fresh mild air, inclosed by the Crystal Palace, brings out colors, and the tint of leaves, far beyond any method within our knowledge. Most of those very old Camellias, and Rhododendrons, were half dead, or three parts burnt up at the roots, three years ago, when they were planted here; and many of them would have died outright, in small houses, in a few years; but what splendid specimens they are making already.

"One large oval Majolica vase, fit for the Queen's room, is managed, as most drawing-room pot flowers should be, and a hint from this Court may be useful, just now. All the most costly drawing-room vases have no hole, or holes, in the bottom, to let off the drainage from the flower-pots, for fear of soiling carpets. To get over this, the bottom half of this Majolica vase is stuffed with green moss, the pots are plunged in the moss, and the top is then mossed with the finest and *shortest* moss, which looks as smooth as green velvet. In warm rooms the pots must have water, but the quantity of bottom moss 'takes it up' like a sponge, for ten days, or more, or less, according to the time, temperature, and the temptations to water. After that, the vase is taken out, put on the oilcloth, and the moss is squeezed, after the manner of wringing in the laundry; the moss seeds go in the surplus water, and the moss itself is green, damp, and comfortable for the pots and plants a second, and a third, and many times, for nobody knows for how long a time; doing away with the expense of purchasing moss, so difficult in towns, and with the uncomfortable apprehension, in the country, of getting in horrid creatures and crawling things from the woods."

THE VIOLET OF ROUEN.—We have frequently pointed out the advantages which horticulture might derive from some of our indigenous plants. One of our friends, M. Viginien, a zealous botanist, has drawn our attention to the Violet of Rouen as a plant adapted for edgings. M. Jacques has introduced this edging into the Park of Villiers. This horticultural novelty, so far as we are aware, has not been propagated elsewhere; and we venture to recommend it as a treasure of which many horticulturists do not know the value.

A few words upon the principal characters by which the Violet of Rouen, Viola rothomagensis, may be distinguished will, we think, be necessary to enable our friends to identify it. It is perennial, with diffuse tufted angular branches, spreading at the base, and then growing erect to the height of eight or ten inches in a cultivated state; but according to authors the actual height of the plant in a wild state is seldom more than five or six inches. The leaves, which are of a greyish green, are oblong oval, deeply crenated, and, as well as their petioles and stipules, thinly set with hispid hairs. The stipules are large, pinnati-partite lyrate, the terminal lobe usually entire, or nearly so, and larger than the side ones, which are linear. The peduncles are long, furnished with two bracts, and supporting flowers with petals which do not equal twice the length of the calyx. The spur is linear, straight, elongated; the flowers are blueish and violet.

The Violet of Rouen is a species much sought after by the Parisian florists on account of its rarity. In the neighborhood of Paris it is only to be found, it is said, at Mantes, Liancourt, and Meaux; but its true locality is Saint-Adrien, near Rouen, where on the sandy banks of the Seine the plant is said to be very abundant.

This Violet, which some botanists considered to be only a variety of V. tricolor, was scarcely cultivated till about 1789. It produces numerous flowers throughout the summer. It is one of the group of Violaceæ, which exhibit the property of being perennial, an important point for the horticulturist. Its appearance is graceful, its flowers are richly colored, and its stems have the advantage of covering the surface of the soil. Lastly, it produces from May till October a profusion of flowers, and it is very readily propagated by seed. About the year 1840 the happy idea occurred to M. Jacques of sowing the Rouen Violet in the Park of Villiers, and planting out the seedlings as edgings; and, as we have stated, with very satisfactory results. The late gardener of Neuilly has therefore enriched horticulture with a valuable plant, which

will rank as high as any other, such as Statices, Primulas, Larkspurs, &c., employed for the same purpose. *Léon Gouas, in the Revue Horticole.*

"PEAR CULTURE, A Manual, By Thomas W. Field." This new manual, from the press of Mr. A. O. Moore, is seasonable, and from a good source. It is up to the day, full of instruction, and has some views which will require a more lengthened notice hereafter. Price 75 cts.

ANSWERS TO CORRESPONDENTS.

MELINDA.—Notwithstanding the outcry against the "right of search," we adhere to the doctrine in its full sense, in horticulture. All have the right of search, and it is a duty to discover error in whatever disguise it conceals itself. If you are successful, don't hesitate to say so; but if others are not, allow them the same privilege.

TAN.—It is believed the discrepancies in the opinions about the use of tan, may be accounted for by the fact, that so long as it remains on the surface as a mulch, it does no injury; but when dug in it acts as a poison to the ground.

TWO NEW ROSES.—The two new Roses which Mr. Pentland is about to bring out, are Dr. Kane, a lovely yellow and very fragrant; and George Peabody, which treads very hard upon Geant des Batailles; it is a free grower, of lively color, and so far, free from mildew. We shall report further.

P. MONTEREY.—Your cone is from Pinus tuberculata. It was first discovered by Dr. Coulter in your neighborhood, South of Monterey, in latitude 36°, near the level of the sea, and growing almost close to the beach, intermixed with Pinus radiata. It is a tree of slow growth, and seldom attains more than twenty-five or thirty feet in height, with a trunk eight or ten inches in diameter. It is as hardy as Pinus insignis; leaves in threes, thickly set on the branches, bright green, rather stiff, with an elevated rib running along the middle on the inner side.

J. JAY SMITH, ESQ.,—Will you give by mail, or through the medium of "*Horticulturist*," a select list of plants, shrubs, roses, &c., best suited for stocking a small parlor greenhouse; say twelve by seventeen feet, partially heated by the furnace which warms the dwelling; and say *how many* of each would give a full show of flowers for winter.

We are not particular in such matters down in this part of the world, and have no one to apply to personally who can enlighten us by practical experience. My object is to save time and money by procuring only such things as are best of their kinds, and each in proper proportion for beautifying the greenhouse in winter. Many of the lists published in the *Horticulturist* are too extensive, and how to select from them is the difficulty with us here.

Fredericksburg, Va. AN OLD SUBSCRIBER.

We do not think *any* of the following could be spared in a house twelve by seventeen:

Two Calla Ethiopica; 1 Lantana crucea; 1 Lantana delicatissima; 2 Poinsettia pulcherrima; 1 Euphorbia jacquiniflora; 1 Abutilon striatum; 1 Mahonia odorata; 1 Laurustinus; 2 Stevia serrata; 2 Bouvardia leiantha; 1 Cestrum aurantiacum; 2 Habrothamus elegans; 1 Polygala cordifolia; 1 Genista racemosus; 1 Chorozema varia; 1 Pentas carnea; 1 Kennedya monophylla; 1 Jasminum revolutum; 1 Begonia incarnata; 1 Bignonia capensis; 1 Aphelandra Ghiesbrechtii; 1 Olea fagrans; 1 Azalea indica alba; 1 Azalea indica purpurea; 1 Acacia linearis; 2 Double white camellias; 1 imbricata camellias; 1 Epihyllum truncatum; with a few Scarlet Geraniums, Scarlet Verbenas, Chinese Primroses, Heliotropes, Roseleaf Geraniums, and Neapolitan Violets. Deutzia gracilis, Jasminum nudiflorum, and Dielytra spectabilis, though hardy, will be useful; and a few good Roses will not, of course, be overlooked.

GOSSIP.

ORCHIDS.—The absence of disease in Orchideous plants is to be accounted for by the plants never being exposed to damp and cold *combined;* dampness with suitable warmth, does no harm: moderate cold with sufficient dryness does no harm. Both are indeed indispensable conditions of life. It is only when the leaves become too cold while wet or over damp that the tissues decay, and the formidable "black spot" appears.

CROWNS.—Why for thousands of years have we crowned the Warrior with laurels, the Poet with Ivy, the Citizen with Mural emblems, and the Husbandman with nothing; why are his achievements without record and his name without honor, and his only reward that which is to be found in the words of the then stern Juvenal, "Laudater et alget!" translated by Gifford—"For virtue starves on universal praise."

THE TORPEDO.—The living torpedo was employed by the ancient Greek and Roman physicians as a remedial agent, and a living electric fish was undoubtedly alike the earliest and the most familiar electric instrument employed by mankind. The works of Galen, Dioscorides, Scribonius, and Asclepiades prove that the shock of the torpedo had been used as a remedy in paralytic and neuralgic affections before the Christian era.

CREATION.—"How wonderful," says Hugh Miller, "has the course of creation been! How strange a procession! Never yet an Egyptian obelisk or Assyrian frieze—each charged with symbol and mystery—have our Layards or Rawlinsons seen aught so extraordinary as that long procession of being, which, starting out of the blank depths of the bygone eternity, is still defiling across the stage, and of which we ourselves form some of the passing figures. Who shall declare the profound meanings with which these geologic hieroglyphics are charged, or indicate the ultimate goal at which the long procession is destined to arrive?"

BLODGET says: as we have no answer yet *why* are the extreme variations of heat, moisture, and other sensible conditions, irregular and impossible to foretell as they are, and what are the *causes* of them, it is too early to characterize the opinions which charged these to gods, or causes in the earth &c. as wholly unsound. The wonder age lingers yet, and it may refresh our view of its absurdity to refer to the time when the phenomena were localized, making the solution easier, if it were only correct. Pliny says that, "In many houses there be hollow places devised and made by man's hand, for receipt of wind, which, being enclosed with shade and darkness, gather their blasts." And he gravely asserts that "there be certain caves and holes in the earth which breed wind continually without end, into which if you cast any matter of light weight, there ariseth presently a stormy tempest, whereby we may see how all winds have one cause or another!" At this day generalization alone can seize the true expression of detailed observations, however accurate, and this generalization must be derived from masses and summaries by rigid deduction and comparison.

THOUGH the dog-days are thought peculiarly liable to the introduction of hydrophobia, and people are very solicitous about having dogs muzzled in the hot weather, statistical returns show that madness occurs among dogs nearly as often in the spring, and even winter, as in summer. It is further found that August and January, the hottest and coldest months, are those which furnish the fewest cases.

THE ORANGE CROP OF LOS ANGELES—says a California paper, is coming into market. The crop amounts to about 170,000, and is sold on the ground at $12 per thousand. The cultivation of the orange is destined to become an important source of wealth to the State, or at least it will occupy many persons, and hold an important place in our trade. The trees commence bearing when eight years old, and will produce a crop worth $25 per tree, or $1,000 to an acre containing forty trees. This estimate is a low one, both for the price and the quantity of fruit; for a good tree often yields several thousand oranges in a year. The cultivation

in earnest has just commenced; this year's crop may be said to be the first which has ever come to our market from Los Angeles. The fruit is large and good.

A WATERPROOFING COMPOSITION.—The following may be useful and is, I believe, not generally known. Take three pints of linseed oil well boiled and mix in it one ounce of soft soap. This may be brushed over calico when stretched on a frame. It will resist moisture for a length of time, and is very durable. Pits covered thus admit plenty of light, although I think the tint of it is not good for growing plants, being rather yellow. It is useful in many ways, however, has little smell that is disagreeable, and is besides, cheap.—*D. K.*

THERE is nothing new in striking cuttings in sand and water, as mentioned in the May "Gossip;" except adapting it to the purpose in windows and parlors, it is precisely what gardeners do in green houses constantly, even with rose cuttings. After success depends greatly on getting them out of the pure sand as soon as well struck. If struck in a pot, well drained, filled up rather better than one half with sandy soil and covered with a pane of glass, such plants might remain in the pots until planting out time, or be turned out into a simple frame.

EGGS sent to any distance for hatching should be packed thus. Wrap each egg in several folds of newspaper, and then place a thick layer of cotton and straw cut to the length of the box, both under and over the eggs, filling up every interstice with pledgets of cotton. Egg boxes should have their tops screwed down, the jar of the hammer in nailing destroying the vitality of the egg.

MISCELLANEA.

THE TOAD.—Like all the reptiles the toad changes its skin, but the cast envelope is never found, although those of the serpents are common enough. The reason why it is not found is this: the toad is an economical animal, and does not choose that so much substance should be wasted. So after the skin has been entirely thrown off, the toad takes its old coat in its two fore-paws, and dexterously rolls it, and pats it, and twists it, until the coat has been formed into a ball. It is then taken between the paws, pushed into the mouth, and swallowed at a gulp like a big pill.

SPIRÆA GRANDIFLORA.—Among recently introduced and comparatively little known plants is Spiræa grandiflora, a hardy deciduous shrub, a native of China, sent to England by Mr. Fortune. In ordinary seasons it flowers early in April; this year, however, the combined cold winds have retarded it, and now, April 23, the buds are but just opening; the flowers are white. I made a drawing from a young vigorous plant, the first which bloomed in this country. One spike of flowers only was produced upon the branch. Older plants threw out very many lateral spikes. The plant grows rapidly in any ordinary garden soil, and flowers profusely As a spring ornament in our shrubberies it will doubtless soon become conspicuous. W.

CYDONIA JAPONICA; VAR. MALLARDII.—The old *Cydonia* (more commonly called *Pyrus*) *Japonica* is well known as a beautiful hardy flowering shrub. We have the gratification to announce a variety raised by M. Mallard, of Mans, of great merit. Its flowers are quite as large as those of the common one, white, most beautifully striated towards the centre with rosy carmine on both surfaces of the petals, so as to leave a wide and distinct white margin all round them. It is a very free-blooming hybrid, and we can scarcely conceive two shrubs more beautiful when in blossom against a wall in spring than a plant of the old species, and the present new variety.—*London Florist.*

FROGS.—The edible frog (*Ranna esculenta*) is brought from the country, in quantities of from 30 to 40,000 at a time to Vienna, and sold to large dealers, who have conservatories for them; these conservatories are large holes, four or five feet deep, dug in the ground, the mouth covered with a board, and in severe weather with straw. In these, even during a hard frost,

the frogs never become quite torpid, they get together in heaps one upon another instinctively, and thereby prevent the evaporation of their humidity, for no water is ever put to them.

A FAIRY SPOT.—A small quiet nook nestled among trees, and carpeted with green around. And there a brook should murmur, with a voice of out-door happiness, and a little garden brimming over with flowers should mark the days and weeks and months with bud and blossom; and the worst injuries of time be fallen leaves. And then, health in balm should come about my path, and my mind be as a part of every fragrant thing that shone and grew around me.—*Douglas Jerrold.*

THE LESSON OF THE GARDEN.—A garden is a beautiful book, writ by the finger of God; every flower and every leaf is a letter. You have only to learn them—and he is a dunce who cannot, if he will, do that—and join them, and then go on reading and reading, and you will find yourself carried away from the earth to the skies by the beautiful story you are going through. You do not know what beautiful thoughts—for they are nothing short—grow out of the ground, and seem to talk to man. And then there are some flowers, they always seem to me like over-dutiful children: tend them ever so little, and they come up and flourish, and show, as I may say, their bright and happy faces to you.—*Ibid.*

I SAY, Mick, what sort of potatoes are those you are planting?" "Raw ones, to be sure—your honor wouldn't be thinking I would plant boiled ones."

A DRINKING man had a loose potatile look. It was plain, said a wag, that his face, like hot house fruit, had ripened under a glass!

Notes for the Month.

VINEYARD CALENDAR FOR JULY.

BY R. BUCHANAN, CINCINNATI, OHIO.

THE duties of the vine-dresser this month are merely a continuation of those recommended for the last. Summer pruning; tying up the branches to the stakes; and keeping the weeds down by light hoeing or plowing.

The two canes, or branches of the new growth, intended for bearing wood next year, will reach the tops of the stakes about the middle of this month. Train them across to the next stake, and let them grow. It is injurious to shorten them in, as the fruit buds for next year might swell prematurely.

This is the month to expect rot. Plenty of light and air, provided for in training the vines, and perhaps the sulphur remedy, as heretofore recommended, may, in some measure, prevent that disease; but scarcely any treatment or application can entirely conquer what arises—like the rust in wheat—from atmospheric causes. The treatment of wine this month is the same as before stated. "Keep the cask full, and the bungs tight." Burn a sulphur match in each empty cask once a month, and bung tight. This match is a strip of rag or brown paper submerged in melted sulphur—an inch wide; and two inches long, will be enough for each cask.

In the directions for June, "branches" was printed for *bunches.*

BY WILLIAM SAUNDERS, GERMANTOWN, PA.

HYBRIDIZING.—The improvement of vegetable races by hybridizing is one of the most direct and important means which we possess in modifying and adapting them to our purposes, and a subject worthy of special attention. The field of experiment is boundless, and some sections of it have scarcely been trod upon. The florists of the old world have, by this means, enriched their parterres and green-houses with an endless variety of flowers, and, by perseverance and assiduity, attained a degree of exact application of the process, which has been attended by results at once hopeful and suggestive to those who desire similar improvements in objects more worthy the attention of utilitarians.

The improvement of the various kinds of fruits, and their better adaptation to domestic purposes, is a section of this field which presents enticing inducements to the experimentalist. It may safely be presumed that none of our available fruit productions have attained the highest degree of excellence of which they are capable, nor do they afford the variety, or continue their productive season to the extent which is evidently possible. We have fruits which, indi-

vidually, possess certain desirable properties, associated with qualities equally tending to depreciate their merits. Thus size is almost invariably united with deteriorated flavor. Earliness, again, is frequently the only merit of some, and, from the experience and success of the past, there is abundant evidence of the possibility of one variety possessing the combined excellencies of those already existant. Take, for instance, that most desirable and available of small fruits, the raspberry, and originate a variety with the adaptability for general culture and hardihood of the Allen, combining the luscious flavor and size of the Orange and Fastolf, having in addition the continuous fruiting character of the Catawissa, and we should have a near approach to perfection in this fruit.

Currants and Gooseberries are susceptible of much improvement; while the strawberry season is very short, new varieties later than any we now possess might be obtained.

The native grape, above all fruits, offers great inducements to the hybridizer. We have not, as yet, a standard grape possessing the qualities of a fine table fruit, uniformly productive and perfectly hardy. By hardiness, I do not mean, exclusively, their ability to withstand the colds of winter, but the possession of a constitutional vigor that will be proof against such destructive maladies as mildew and rot. When we produce a grape of the size of the Isabella or Catawba, with the flavor of the Diana or the Delaware, and entirely hardy, it will be an acquisition in our fruit lists. A good native wine grape is one of the greatest desideratums of the times, and, from present indications we have reason to hope that it will soon be supplied.

The operation of hybridizing plants consists in fertilizing the stigma of the flower of one plant with the pollen of another of allied kind; if these two flowers are from plants having different characters, the effect will be to originate a new form, possessing properties intermediate between its parents.

With many plants the operation is attended with some slight difficulties, and in all a delicacy of manipulation is required which deters, in some measure, experiments of this kind from becoming general; but carefully conducted operations will be certainly followed by valuable results.

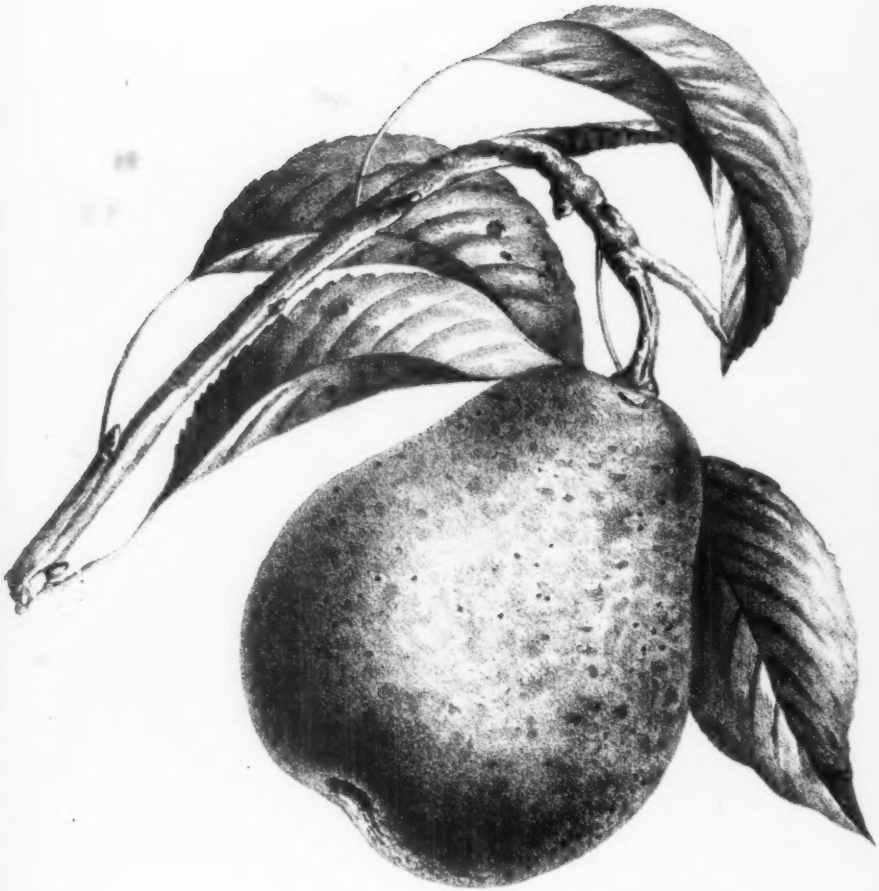
Accidental hybridization often occurs through the agency of insects and other causes: it is very common to find one berry in a bunch of grapes larger than the others. It is presumable that a greater portion of developing agencies has been concentrated in such berries, and, by saving and sowing the seeds, a superior production may be obtained. Currants, raspberries, strawberries, &c., may be rapidly improved by this means—saving always the largest berry on the plant; and if every cultivator of fruit were to carefully select and plant the seeds of the largest specimens, an improvement would speedily be effected.

STRAWBERRIES are very productive when planted on deeply trenched soil only moderately enriched with putrescent manures. A rich surface soil without depth will produce a large amount of leaves, but will not ripen a proportionate quantity of fruit. Dry weather will injuriously and speedily affect a shallow soil, no matter how rich it is: but when the roots can reach a depth beyond the scorching of a week's dry sunshine, the crop will ripen equally and satisfactorily. The end of the month is a favorable time to form new plantations. Many of the later foreign importations are "promising well;" but for general use we must still plant chiefly of native seedlings.

SUMMER PRUNING.—In growing plants into particular shapes and forms, the advantage and expediency of summer pinching or pruning of the young shoots is very apparent; as I have remarked before in these pages, many beautiful shrub-like plants may be produced by setting out small plants of such trees as the sour and sweet gums, sugar and red maples, or indeed any tree, and keeping it low and bushy by constantly repressing growth during summer. Trees with fine colored foliage are preferable. So with evergreens. We lately saw specimens of Norway fir, which have been for several years deprived of their leading shoots. They formed splendid masses of foliage, and could not be excelled for filling up shrubberies and close plantations. This is a feature in ornamental planting which we are desirous of seeing extended, as a ready method of producing effects, where close masses of low growth are desirable.

It is but the work of a moment to check the growth of a luxuriant shoot by pinching out its point in passing. By doing so at an early period, it not only checks the vigor at that particular point, but induces a stronger growth on other portions of the plant. Those superb specimens of green-house plants which occasionally grace the tables in the exhibition rooms of our horticultural societies, are produced by judicious pruning during their growth. Those who have an eye to symmetry of form and composition will at once detect and correct irregularity of growth; and the man who knows how to enjoy a garden, and has facilities for gratifying his taste, does not

> "Govern only, or direct,
> But much performs himself. No works, indeed,
> That ask robust, tough sinews, bred to toil,
> Servile employ; but such as may amuse,
> Not tire, demanding rather skill than force."



KINGSESSING PEAR